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DISTRIBUTION ENGINEERING

**Electric Distribution Engineer, Associate (51874184) and Electric Distribution Engineer (51874186)**

A. DUTIES

In compliance with standards and guidelines:

Submits long term and short term reconstruction, capacity and reliability plan recommendations, manages projects within their local area of $100,000 or less, reviews and recommends job estimates within DPA for capacity and reliability.

Monitors area substation and circuit capabilities and track corresponding loads. Prepares proposals, including justification, for appropriate corrective actions to address deficiencies found. Performs planning studies to correctly model the electric distribution system and works with Mapping to ensure discrepancies are corrected in the associated records system. Analyzes historical loads and project future growth. Prepares long term and short term plans to identify and correct area deficiencies. Prepares long term and short term plans to identify and correct area deficiencies. Prepares draft Preliminary Planning Reviews (PPR's). Identifies alternatives to address deficiencies for Project Authorizations (PA's). Reviews and analyzes area distribution systems and takes appropriate actions to maintain seasonal power factor and primary voltage within established standards. Determines circuit and associated equipment capabilities within the assigned DPA. Prepares and initiates annual switching plans to alleviate normal and emergency deficiencies. Prepares necessary documentation about distribution system needs for estimating to complete job packages. Prepares seasonal settings for load tap changers and other line equipment based on planning projections. Reviews requests for new large customer load additions or increases in voltage and recommends actions to correct any deficiencies. Provides direction and reviews primary designs proposed by estimating to ensure adequate capacity and reliability.

Prepares settings for distribution protective devices. Performs circuit protection reviews and make recommendations for corrections. Determines protection requirements for rule 20, WRO projects and other major distribution projects which could impact the existing protective scheme. Prepares settings for Distribution Automation (DA) devices affecting distribution protection, voltage or emergency switching.

Initiates service dependability solutions, actively participates in local reliability / root cause meetings. Works closely with construction to prioritize outage prevention work within DPA. Address customer complaints (Help Tickets) for recurring outages as assigned. Prepares initial responses for CPUC complaints for recurring outages. Provide technical assistance and address customer voltage complaints caused by primary voltage problems. When requested, address customer EMF requests involving distribution facilities as assigned, assist E&M and OM&C personnel to address customer voltage complaints caused by secondary voltage problems. Supports estimating, construction, and other departments as required. Reviews, modifies, and recommends switching clearances for feeders, banks and stations as requested by DO’s. Address customer EMF requests involving distribution facilities as assigned. Reviews switching arrangements, equipment settings, voltage levels, power factor needs, etc. to ensure the distribution system are operated in the most efficient manner. As part of annual planning, reviews switching arrangements, equipment settings, voltage levels, power factor needs, etc. to ensure the distribution system are operated in the most efficient manner.
Prepares EASOP (economic analysis) for projects in DPA. Prepares other engineering analysis as assigned. Provide supervisor on-call support as required. Maintain equipment records as assigned.

B. REQUIREMENTS

A BSEE from a college or university accredited by the Accreditation Board of Engineering and Technology is required for Electrical Distribution Engineers.

**ELECTRIC DISTRIBUTION OPERATIONS ENGINEER (51874308) AND ELECTRIC DISTRIBUTION OPERATIONS ENGINEER, ASSOCIATE (51874307)**

A. DUTIES

1. Perform Distribution System Clearance Review/Analysis/ and Switching Plan Development.
2. Perform N-1 Distribution Load at Risk Analysis and Prepare Management Communications.
5. Perform Validation of Inoperable Critical Operating Equipment and Determine Equipment Disposition.
6. Provide Support During the Execution of the Process to Repair/Replace Critical Operating Equipment.
9. Update Load Flows When Permanent Switching, System Re-configuration, and New Devices are Installed.
14. Act as the Single Point of Contact for resolving Engineering Related Issues/Items that Impact the Control Center data accuracy such as, but not limited to, seasonal loading data, relay setting data, LR bypass capability, etc.
15. Determine and initiate relay, regulator, recloser and capacitor settings to resolve abnormal daily operating conditions as needed.
16. Participates in the on-call rotation as described in Exhibit D.IV.8.G.

B. REQUIREMENTS

1. DOE: A BSEE from a college or university accredited by the Accreditation Board of Engineering and Technology is required, plus demonstrated knowledge and ability to perform the basic duties of the Electric Distribution Operations Engineer. Meets specific technical requirements gained through a minimum of thirty months of cumulative experience in engineering and design.

2. Associate DOE: A BSEE from a college or university accredited by the Accreditation Board of Engineering and Technology is required.
ELECTRIC DISTRIBUTION OPERATIONS ENGINEER, LEAD (51874309)

A. DUTIES

Under supervision of management, performs the work of an Electric Distribution Operations Engineer, assists other employees in the performance of their work, provides advice and training, can make specific work assignments to employees in lower classifications, provides technical guidance and oversight of work, reviews completed work of new and inexperienced DE-Associates for conformance with Company Standards and generally accepted distribution engineering practices. Leads distribution engineering emergency response by managing DE on-call schedules. As required, manages day-to-day schedules of lower classifications to ensure coverage. Assist Supervisor or Manager in the development, creation, and drafting of needed distribution engineering operations guidelines, processes, and training documents. Responsibility also includes review and approval of time cards.

B. REQUIREMENTS

Meets the full qualifications of a Distribution Operations Engineer and the demonstrated ability to perform those duties as evidenced by the quality and quantity of the work product. Must demonstrate the ability to direct the work of Electric Distribution Operation Engineers. Meets specific technical requirements gained through a minimum of 8 years cumulative experience in Electric Distribution Engineering or a related field; a current and active California PE license or MS degree may be substituted for 2 years of experience.

GAS DISTRIBUTION ENGINEER, ASSOCIATE (51874184) AND GAS DISTRIBUTION ENGINEER (51874178)

Job Descriptions updated by LA 18-01

A. DUTIES

Gas Distribution System Planning

1. Uses gas planning workstation and associated software to prepare and/or update distribution system models. This includes: facility model review, loading, validating, analyzing results, preparing recommendations, preparing documentation, future growth planning of distribution systems only.
2. Recommends distribution main sizing for new business, reconstruction, work requested by others (WRO), and pipeline replacement jobs.
3. Prepares annual and future capacity planning recommendations within assigned area.
4. Establishes distribution regulator station design criteria, minimum inlet pressures, outlet pressures and flow rates.
5. Completes and reviews request for calculations (RFC) for new large customer load additions and approves elevated pressure requests within delegated authority.
6. Reviews requirements for service line sizing and/or large meter sets (i.e. piping size, equipment) as requested for unusual situations. Associate Distribution Engineers (ADEs) also perform this task.
7. Uses planning workstation to provide recommendations for distribution system operation - e.g. throttle valves, regulator settings, curtailments, emergency, bypass sizing, etc., to ensure adequate pressure and capacity for normal seasonal operations and during emergency operations.
8. Prepares low pressure flow analysis calculations, BTU zone analysis. Reviews distribution shutdown plans to ensure gas capacity. Reviews distribution Emergency Shutdown Zone (ESDZ) binder and maintains appropriate sections.
9. Develops, recommends and communicates distribution winter operating plan for facilities. Distribution winter chart planning and monitoring.
10. Performs gas loss calculations (also performed by estimating).
11. Assists in investigating customer pressure complaints.
12. Distribution Clearances: Creates pre-clearance form and provides endorsement when required. Writes clearance procedure for operational changes as assigned (also performed by other classifications).
13. Provides support for emergencies as necessary, including providing support to the local Operation Emergency Center.
Non-routine activities to be performed as assigned (typically performed by other classifications): 
14. May support Gas Transmission Planning Engineers to complete steady state analysis of local transmission facilities, in accordance with Letter of Agreement 01-01-R1.

Gas Distribution Engineering & Design

15. Acts as job owner (responsible for project management duties) for gas distribution capacity and reliability projects of $100,000 or less. Estimators may also be job owners for service-only work.
   a. Leads project from inception to closure
   b. Manages project scope, schedule, and budget
   c. Obtains proper approvals to proceed with work
   d. Ensures materials, including long lead time, are available per the project schedule
   e. Ensures that dependencies are clear
   f. Ensures timely completion of project (CN24 is completed by the required date)

Routine activities to be performed as directed
17. Project identification and scoping for gas distribution capacity and reliability projects. Estimators may also perform these duties for service-only work.
   a. Develops and defines project scope and objectives
   b. Prepares and submits project funding requests as needed. Program Managers and others also perform this task.
   c. Prepares EASOP (economic analysis) for assigned projects. Senior Distribution Engineers and Project Managers may also perform this task. Other classifications also provide economic analysis.
   d. Prepares request for calculation (RFC) for reconstruction, work requested by others (WRO) and pipeline replacement jobs.
   e. Prepare engineering, calculations and sizing for projects.
   f. Respond to engineering requests from asset owners.
18. As the Engineer assigned to a project:
   a. Review gas distribution construction drawings and associated documents for technical accuracy – this may include 30/60/90% reviews
   b. Support construction and troubleshoot field issues.
   c. Assist in pre-construction meeting as assigned.
   d. Assist in completing Process Hazard Analyses (PHAs) and Pre Start-up Safety Reviews (PSSRs).
   e. Support and review Field Change Control requests.
   f. Ensure project compliance with industry regulation and company standards.
19. General duties include:
   a. Perform Engineering Review/Validation of Other Corrective Work (OCW) notifications as assigned.
   b. Create OCW notifications for corrective work where other groups are not creating notifications.
Non-routine activities to be performed as assigned:
20. Participate in responding to CPUC and internal audits, field visits and requests for information.
21. Represent PG&E gas engineering to outside agencies. Other Engineers and supervisors may also perform this duty.
22. Write clearances for planned distribution work. Estimator, ADE or other classifications generally perform this task as defined in Letter of Agreement 15-05.
23. Assist in updating and revising Gas standards and procedures.
24. Support Compliance Reviews (e.g., MAOP Annual review, Relief Valve Calculation Annual Review, Stub review, etc.).
25. Act as a company witness, liaison, and/or information provider to outside parties.

Gas Distribution Control Center Planning Engineering
26. Uses gas planning workstation and associated software to provide hydraulic engineering support for the Gas Distribution Control Center and support Emergency Operations Centers as necessary.
27. First point of contact in emergencies that require hydraulic analysis for distribution system operations.
28. Reviews high consequence and overlapping clearances when required for hydraulic feasibility prior to distribution clearance execution.
29. Supports Gas Distribution System Planning engineers in all duties outlined in “Gas Distribution System Planning.”

General Functions
30. Performs distribution engineering analysis as assigned.
31. Participates in interfacing, coordinating, and providing distribution technical support to other departments.
32. Recommends and reviews distribution alarm set points as assigned.
33. Participates in system wide technical and process improvement efforts.
34. Participates in providing training, guidance, instruction and coaching to other engineers and estimator classifications.
35. Participates in submitting various capital and expense items for budgeting purposes.
36. Participates in the Company’s Corrective Action Program (CAP) to include, submitting, resolving, coordinating, acting as notification and task owner, etc.
37. Participates in Distribution Integrity Management Program (DIMP) initiatives including execution of capital/expense projects stemming from causal analyses, implementing solutions to constructability issues, etc.

B. REQUIREMENTS
A BS or higher degree in Mechanical or Civil Engineering from a college or university accredited by the Accreditation Board of Engineering and Technology is required for Gas Distribution Engineers. Applicants with other Engineering degrees may be considered by mutual agreement of the interview panel.

<table>
<thead>
<tr>
<th>Senior Gas Distribution Engineer (52031693)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Summary</strong></td>
</tr>
<tr>
<td>This is a senior level Engineer position. This position plays an integral role in ensuring that safety, reliability, and compliance is maintained within the gas distribution system by supporting resolution to compliance issues, identifying, reviewing, or recommending corrective work (including main replacement), and ensuring Gas Design Standard adherence. Additionally, the Senior Gas Distribution Engineer (SDE) provides design support, coaching, technical advice, knowledge transfer and assistance to technical employees and teams.</td>
</tr>
<tr>
<td><strong>Job Duties</strong></td>
</tr>
<tr>
<td>Able to perform all the duties of the journey level Gas Distribution Engineer with a higher level of independence or for more complex activities, and in addition:</td>
</tr>
<tr>
<td>1. Acts as Responsible Engineer for assigned projects requiring PE approval</td>
</tr>
</tbody>
</table>
2. Performs assigned conflict reviews, including Agency coordination to identify WRO scope of work and avoidance of facility relocation.
3. Reviews, processes and/or approves (if permitted by the standard) Gas Standards variance requests. (other classifications, including management employees also perform)
4. Approves Strength Test Pressure Reports for assigned projects. (other classifications also perform)
5. Reviews Distribution Regulator Station Operating Diagram revisions, if required by process.
6. Acts as a lead in assigned root cause analyses and makes recommendations to address problems.
7. Endorse Maintenance Clearances (Non-routine)
8. Review As-Builts and provide guidance to Documentation QC group
9. Provide guidance on W&C Matrix and set dates as assigned
10. Providing Customer Service Delivery (CSD) Support by reviewing bridge designs and meter rooms, reviews and dispositions of variance requests, and general engineering support.
11. Approves Compliance Reviews (e.g. MAOP Annual review, Relief Valve Calculation Annual Review, Stub review, etc.)
12. May Interpret Gas Rules and Tariffs, often by corresponding with Land, Law, Tariffs, and other departments to support GDED and Service Planning.

<table>
<thead>
<tr>
<th>Interaction</th>
<th>External contacts are with public agencies, contractors, and vendors. Internal contacts are with GDED team members, Company management and leadership. Exchanges information and solves problems with others outside GDED.</th>
</tr>
</thead>
</table>
| Knowledge / Abilities | Applies extensive knowledge of engineering principles, industry practice, and Codes & Standards to resolve complex problems.  
| | Ability to perform stress calculations for gas distribution facilities and interpret results  
| | Strong and effective organizational, analytical, time management skills  
| | Ability to prioritize and to meet tight deadlines in an environment of competing priorities with a degree of autonomy and integrity  
| | Efficient knowledge of Microsoft Office Excel |

<table>
<thead>
<tr>
<th>Job Qualifications:</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Education</td>
<td>A BS or higher degree in Mechanical or Civil Engineering from a college or university accredited by the Accreditation Board of Engineering and Technology is required for Gas Distribution Engineers. Applicants with other Engineering degrees may be considered by mutual agreement of the interview panel.</td>
</tr>
<tr>
<td>Licenses / Certifications</td>
<td>Current and active California PE license may be required.</td>
</tr>
<tr>
<td>Experience</td>
<td>Mastery of the Associate and Journey level Engineer job duties and demonstrated knowledge and ability to perform the basic duties of the senior level Engineer. Meets specific technical requirements gained through a minimum of eight (8) years of cumulative experience in engineering and design. Applicants with Electric Engineering degrees may be considered by mutual agreement for positions that will be focused on SCADA or other special programs.</td>
</tr>
</tbody>
</table>

| Summary | This is a senior consulting-level engineer job that requires mastery of the senior engineer duties. The Senior Consulting Engineer leads complex engineering projects, is a recognized expert within their area of responsibility, and applies extensive knowledge of concepts, principles, and practices to resolve complex problems with only general direction. Provides technical leadership and coaching. Researches and identifies practical solutions to highly complex problems. Identifies opportunities and brings in ideas to help improve Company performance. |

<table>
<thead>
<tr>
<th>Senior Consulting Gas Distribution Engineer (52031694)</th>
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</thead>
</table>
Job Duties
May perform all the duties of Senior Gas Distribution Engineer and in addition:
1. Provide engineering support for large highly complex projects, and perform engineering analyses, studies, and develop conceptual designs.
2. Develop innovative solutions to solve challenging technical issues.
3. Develops technical policies, procedures, and contributes to the development of standards, specifications, construction documents, and guidelines.
4. Represents PG&E at external industry associations, committees, trade organizations and other inter-utility groups.
5. Acts as an engineering mentor and role model.

Knowledge / Abilities
Demonstrates knowledge and abilities required for the Associate, Journey and Senior level Engineer and also:
1. Able to handle multiple large and complex projects without supervision and serve as team leader.
2. Provide leadership, direction, and assistance to engineers and designers. Coach and develop engineers.
3. Successfully negotiate cost effective solutions beneficial to our customers and PG&E.
4. Complete complex assignments with few or no precedents or standards.
5. Apply extensive knowledge of concepts, principles and practices in a specific field or area of expertise to resolve complex problems.

Job Qualifications:

Education
A BS or higher degree in Mechanical or Civil Engineering from a college or university accredited by the Accreditation Board of Engineering and Technology is required for Gas Distribution Engineers. Applicants with other Engineering degrees may be considered by mutual agreement of the interview panel.

Licenses / Certifications
Current and active California PE license may be required.

Experience
Mastery of the Associate, Journey and Senior level Engineer job duties and demonstrated knowledge and ability to perform the basic duties of the Senior Consulting level Engineer. Meets specific technical requirements gained through a minimum of thirteen (13) years of cumulative experience in engineering and design.

Senior Electric Distribution Engineer - 52011739

Summary
The Senior Electric Distribution Engineer job requires mastery of the Electric Distribution Engineer skills and duties. This position ensures the safe, reliable and efficient operation of the electric power system by providing technical, planning and project implementation support for substation, distribution, distribution network systems, and/or distributed generation. The responsibility level of this position increases with experience and demonstrated ability.

Job Duties
The Senior Electric Distribution Engineer is able to independently perform the job duties of an Electric Distribution engineer, and in addition:
1. Works with limited guidance to complete assignments of broad scope and complexity with few precedents or standards, and assignments that require integration of information from a variety of sources.
2. Applies extensive knowledge of concepts, principles, and practices in power systems engineering to resolve complex problems.
3. Evaluates and identifies strategies, plans and opportunities to improve Company performance.
4. Expands breadth of knowledge to other areas of specialty or further develops expertise and specialization in one area.
5. May provide oversight, direction, coordination and collaboration.
<table>
<thead>
<tr>
<th><strong>Senior Electric Distribution Engineer - 52011739</strong></th>
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</thead>
<tbody>
<tr>
<td>guidance and support to operations personnel and/or engineering personnel on work execution and/or compliance with Company and industry standards (e.g. certifications).</td>
</tr>
<tr>
<td>7. Participates in prioritization and funding for distribution programs.</td>
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<tr>
<td>8. Prepares system wide analysis and recommendations for targeted distribution work.</td>
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<tr>
<td>9. As assigned, assist in communicating with regulators, customers and other external stakeholders to advance PG&amp;E’s objectives.</td>
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<tr>
<td>10. As assigned, provide data to support General Rate Case efforts, regulatory proceedings and data requests.</td>
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<tr>
<td>11. As assigned, lead the capacity planning and load forecasting process, and lead effort to identify Distributed Energy Resources (DER) services.</td>
</tr>
<tr>
<td>12. As assigned, support and drive Outage Review process, lead regional outage review team (ORT) meetings including development of necessary reliability reports.</td>
</tr>
<tr>
<td>13. As assigned, lead distribution automation initiatives.</td>
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<tr>
<td>14. As assigned, support benchmarking with other utilities.</td>
</tr>
<tr>
<td>15. As assigned, provide technical training, coaching and mentoring to lower level engineers.</td>
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<tr>
<td>16. As assigned, work on revising work processes, asset strategy, risk analysis, standards updates, program management, data analytics, committees and special assignments.</td>
</tr>
<tr>
<td>17. As assigned, develop metrics and performance targets that track reliability and system performance as well as the methods and procedures for providing these metrics.</td>
</tr>
<tr>
<td>18. May be assigned to prepare regulatory reliability reports, support General Rate Case efforts and other regulatory proceedings as an asset program assistant. Responds to associated data requests as required.</td>
</tr>
</tbody>
</table>

**Scope**

Resolves problems of complex scope. Assignments may require complex solutions. Works independently with limited feedback from other engineers and supervisor. Job duties will vary by assignment.

**Interaction**

Work requires limited interaction with more experienced engineers and supervisor. External contact with vendors, PG&E contractors, regulatory agencies and customers. Government contacts may be required. May attend selected trade and association meetings. May provide technical guidance and mentorship to Electric Distribution Engineer, Associates and Electric Distribution Engineers.

**Knowledge/Abilities**

Demonstrate knowledge and abilities required for the Electric Distribution Engineer position, and in addition:

1. General knowledge of power systems, power flow analysis, power system theory, voltage stability, and transmission, substation and distribution planning.
2. Demonstrate ability to handle multiple large scale, large budget, complex projects with limited supervision.
3. Demonstrate effective communication and presentation skills.
4. Ability to serve as the leader for guiding project teams.
5. Applies extensive knowledge of concepts, principles, and practices in a specific discipline, field, or area of expertise to resolve
The Senior Consulting/Senior Advising Electric Distribution Engineer job requires mastery of the Senior Electric Distribution Engineer skills and duties. This position ensures the safe, reliable and efficient operation of the electric power system by providing technical, planning and project implementation support for substation, distribution, distribution network systems, and/or distributed generation.

The Senior Consulting/Senior Advising Electric Distribution Engineer is a recognized expert within their area of responsibility, and someone who will apply their extensive knowledge of engineering principles and practices and system analysis to develop creative solutions to complex problems.

Job Duties

The Senior Consulting/Senior Advising Electric Distribution Engineer is able to independently perform the job duties of a Senior Distribution Engineer, and in addition:

- Independently completes assignments of broad scope and complexity with few precedents or standards, assignments that require integration of information from a variety of sources, and
<table>
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<tr>
<th><strong>Senior Consulting - XXXXXXX/ Senior Advising Electric Distribution Engineer - 52011740</strong></th>
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</thead>
<tbody>
<tr>
<td><strong>Senior Consulting - XXXXXXX/ Senior Advising Electric Distribution Engineer - 52011740</strong></td>
</tr>
<tr>
<td><em>studies that comprehensively evaluate strategies and plans for the power distribution system. Conducts special studies at the request of upper management.</em></td>
</tr>
<tr>
<td>2. <em>Comfortably and effectively works with conflicting or ambiguous information.</em></td>
</tr>
<tr>
<td>3. <em>Identifies and implements opportunities to improve Company performance.</em></td>
</tr>
<tr>
<td>4. <em>Is recognized as a subject matter expert in one discipline or type of engineering and provides breadth of knowledge and/or performs analysis and projects across several areas of the distribution system. Searches for and discovers practical solutions to highly complex problems and evaluates and implements new technologies.</em></td>
</tr>
<tr>
<td>5. <em>Provides leadership, direction, and assistance to technical employees and teams. Coaches and develops others.</em></td>
</tr>
<tr>
<td>6. <em>As assigned, ensure the cost-effective implementation of the highest priority projects while optimizing capital investments. May manage multi-year budgets for assigned work categories.</em></td>
</tr>
<tr>
<td>7. <em>Develop and manage major distribution capital and expense programs (e.g. reliability; asset replacement/ modification; capacity; automation).</em></td>
</tr>
<tr>
<td><strong>Scope</strong></td>
</tr>
<tr>
<td>Resolves problems of complex scope, which may require complex solutions. Works independently and provides guidance and feedback to other engineers. Expected to apply creative solutions, techniques and approaches to work assignments. Has well-developed technical and communication skills. Job duties will vary by assignment.</td>
</tr>
<tr>
<td><strong>Interaction</strong></td>
</tr>
<tr>
<td>May be required to work with other Senior Consulting/Senior Advising Engineers and supervisor. Some external contact with vendors, PG&amp;E contractors, regulatory agencies and customers. Government contacts as assigned by supervisor. May attend selected trade and association meetings. Provides technical guidance to other engineers.</td>
</tr>
<tr>
<td><strong>Knowledge/Abilities</strong></td>
</tr>
<tr>
<td>Demonstrates knowledge and abilities required for the Senior Electric Distribution Engineer and also:</td>
</tr>
<tr>
<td>1. <em>Is a technical pathfinder who consistently searches for and discovers practical solutions to highly complex problems and delivers positive results.</em></td>
</tr>
<tr>
<td>2. <em>Assesses business conditions, identifies opportunities, and develops programs from a multifunctional, cross-process perspective to enhance corporate business positions.</em></td>
</tr>
<tr>
<td><strong>Job Qualifications</strong></td>
</tr>
<tr>
<td>Mastery of the Associate, Journey, and Senior level engineer job duties and demonstrated knowledge and ability to perform the basic duties of the Senior Consulting Level Engineer. Meets specific technical requirements gained through a minimum of thirteen (13) years of cumulative experience in engineering and design.</td>
</tr>
</tbody>
</table>
# Senior Consulting - XXXXXXXX/ Senior Advising Electric Distribution Engineer - 52011740

Depending on which specific job position is being filled, the candidate must demonstrate proficiency in one or more of the following specific areas:

1. Distribution Network systems
2. Advanced Distribution Automation
3. Distribution SCADA and feeder automation software
5. Utility Pole Asset Management
6. Data Analytics
7. Software coding/programming (i.e. Python Scripting)
8. Long Term Forecasting and Planning
9. Reliability Analysis and improvement

**Education**

A BSEE from a college or university accredited by the Accreditation Board of Engineering and Technology. Applicants with other Engineering degrees may be considered by mutual agreement of the interview panel.

**Licenses/Certifications**

Current and active Professional Engineer (PE) license desired, but not mandatory, for Senior Advising Electric Distribution Engineer.

Current and active Professional Engineer (PE) license is mandatory for Senior Consulting Electric Distribution Engineer.

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# Principal Distribution Engineer - 52011741

**Summary**

This category is for the engineer that has acquired extensive knowledge in a specific discipline or area of expertise that has the recognition for such knowledge both inside PG&E and by the industry in general. This engineer provides technical input to industry organizations, works independently, and provides analysis techniques to develop creative solutions.

**Job Duties**

The Principal Electric Distribution Engineer is able to independently perform the job duties of lower level Distribution Engineers, and in addition:

1. Leads the largest, most complex (multi-discipline, multi-group) projects and performs the most complex technical analyses, studies, and develops conceptual solutions.
2. Provides internal consulting for PG&E in areas of expertise.
3. Provides consulting to management in an area which is strategically important to PG&E’s business and which is best served with in-house expertise.
4. Makes significant contribution in the formation of PG&E strategy on key technical issues.
5. Independently authors industry standards.
6. Conceives and investigates areas in which engineering precedents are not tested.
7. Applies broad and extensive business understanding of technical issues and impacts the strategic direction and policies of the Company.

**Scope**

Resolves issues of very complex scope. Serves as a key technical resource within area of specialization. Regularly expected to apply creativity or new
approaches to assignments that may be unique. May lead others on technically complex projects. Customarily and regularly uses discretion and independent judgment in fulfilling these job functions.

### Interaction

Externally, establishes and maintains good relations with counterparts in other groups within the Company and higher level representatives in third party organizations, e.g., governmental, regulatory, business partner or community entities, using skilled negotiation, tact and diplomacy. Internal contacts include project team members, Company management across various departments. Serves as the most senior level technical expert on the team. Often is a technical coach for others. May participate in professional affiliations (e.g. IEEE) to keep abreast of new industry trends, developments and procedures. May represent the Company on industry association committees.

### Job Qualifications

Depending on which specific job position is being filled, the candidate must demonstrate mastery in one or more of the following specific areas, and proficiency in more than one is desired:

1. Distribution Network systems
2. Advanced Distribution Automation
3. Distribution SCADA and feeder automation software
5. Utility Pole Asset Management
6. Data Analytics
7. Software coding/programming (i.e. Python Scripting)
8. Long Term Forecasting and Planning
9. Reliability Analysis and improvement

### Education

A BSEE from a college or university accredited by the Accreditation Board of Engineering and Technology. Applicants with other Engineering degrees may be considered by mutual agreement of the interview panel. Master’s degree desired.

### Licenses/Certifications

Current California PE license required.

### Experience

Mastery of the Associate, Journey, Senior, and Senior Consulting level engineer job duties and demonstrated knowledge and ability to perform the basic duties of the Principal Level Engineer. Meets specific technical requirements gained through a minimum of fifteen (15) years of cumulative experience in engineering and design.

### Knowledge/Abilities

Demonstrates knowledge and abilities required for the Associate, Journey, Senior and Senior Consulting level Engineer and also:

1. Able to handle multiple large and complex projects without supervision and serve as team leader.
2. Provide leadership, direction, and assistance to engineers and designers. Coach and develop engineers.
3. Successfully negotiate cost effective solutions beneficial to our customers and PG&E.
4. Complete complex assignments with few or no precedents or standards.
5. Apply extensive knowledge of concepts, principles and practices in a specific field or area of expertise to resolve complex problems.
6. Demonstrates expert level engineering and design knowledge and expertise.
LAND/CORPORATE REAL ESTATE

LAND TECHNICAL SPECIALIST I (50074100)

Position Summary:
Input new documents into Land Rights Library (LRL) database. Ensure quality control regarding both new and old document indexing. Perform searches of land records in LRL and other databases, provide information, copies of maps, and documents to business partners.

Essential Job Functions:
1. Receive, review, code and process all incoming land documents into the LRL database and retrieval system. Also, correct old indexing and image errors in database when necessary and seek guidance from senior Land Rights staff members for remedies to documents found in fault.

2. Search LRL database and GIS database for applicable land documents and maps for requesting business partners. Use knowledge of various available resources and earlier indexing methods to locate documents. Review and weed out unnecessary documents and provide hard copies as requested.

3. Assist with Right Track database, help to process payments and manage system for periodic payment of land-related permits and licenses. Assist in issuing reports of upcoming permit expirations to appropriate supervisors. Update info in Right Track database

4. Process documents requiring recordation with the appropriate county recorders offices and assist in the management of the unit’s account for payment of recording fees.

5. Assist in managing the LRL web page and database system. Identify and report computer problems to system analysts and communicate problems and corrections to Technical Services business partners who use the LRL system. File original documents into shelves at Records Center. Provide general clerical assistance as required. Provide notary services to acknowledge documents requiring PG&E’s execution.

Minimum Job Qualifications:

EDUCATION: AA degree or equivalent with emphasis in real estate principles

TRAINING

LICENSES / CERTIFICATIONS: Notary Commission (desired).

PRIOR EXPERIENCE: Ability to read and understand land documents and land descriptions. Experience and understanding of California Real Estate Law, Real Estate Principles and land title

KNOWLEDGE/ABILITIES:

REAL ESTATE TECHNICAL SPECIALIST I (50074102)

Position Summary:
- Prepares Formal Job Estimates and creates specific order numbers and settlement rules as directed by Real Estate Transaction Specialist II. (RETS II)
- Assists in the day to day updating and population of the project tracking database (FRISBE). Maintain project files and central file system for Building Projects Delivery Group.
- Maintains a working knowledge of SAP Accounting System and related practices and policies issued by the Capital Accounting Department.

20 | P a g e
Other duties as assigned by RETS II, Senior Real Estate Transaction Specialist and Supervisor.

Essential Job Functions:
1. Preparation of Formal Job Estimates for Project Managers (PMs) who manage and maintain facilities within the various Areas. Review scope of work and schedules to determine proper allocation of Company indirects and overheads. Verify and detail units of property or assets to be retired or installed to assure compliance with Capital Accounting’s requirements.

2. Specific Orders – creates and maintains specific orders through the SAP system for each project. Additionally, each order created requires the detailed planning of costs by activity and cost elements.

3. Project Tracking – creates and maintains records for each project in the FRISBE database to assure current information is available for the PMs. Performs testing of enhancements within FRISBE to assure successful implementation and coordinates with programmer and counterparts to resolve any problems that may arise. Conducts individual or group training on all of the aspects of the FRISBE database as required. Also responsible for updating the database User Guide.

4. SAP Accounting System – generates ongoing reports for each project to aid the PMs on tracking project costs. Continually coordinates and downloads data from SAP into the project tracking database so that current information is readily available.

5. CRE /BPD Web Site Coordinator – update documents and other information on the Web site pertaining to the BPD group.

Minimum Job Qualifications:

EDUCATION: High School graduate with some college accounting classes.

TRAINING: SAP, MS Word, Excel

LICENSES / CERTIFICATIONS: N/A

PRIOR EXPERIENCE:

KNOWLEDGE/ABILITIES: Basic accounting practices.

LAND TECHNICAL SPECIALIST II (50074101)

Position Summary:
Acts in a lead role in managing the workload of the Land Rights Library. Manage permit payment system for payments to railroad companies, state and federal agencies. Perform searches of land records in LRL database and provide information and copies of maps/documents. Manage Recorder’s Fund on a monthly basis

Essential Job Functions:
1. Perform searches of land records, determine which records affect the PG&E facilities, and provide information and copies of documents to business partners. Handle inquiries concerning land documents.

2. Ensure quality control regarding input, deletions, and corrections of land documents in the LRL database. Ensure documents are processed in a timely manner so that documents can be retrieved from any PG&E desktop
3. Consult with city, state & federal agencies to ensure timely and accurate processing of Land Right payments. Maintain Land Services permit payment & permit renewal database (Right Track). Generate quarterly reports to appropriate supervisor’s to ensure permit renewals are processed in a timely manner, & respond to Director’s Monthly Report.

4. Maintain contact with systems analysts to ensure LRL database is updated and in full maintenance. Communicate to business partners regarding full use of LRL database at all times to ensure that the database is fully functional.

5. Act as custodian of the PG&E Recorders Fund. Ensure that the account is funded and maintained according to company policy and accounts payable criteria. Prevent cost delays when sensitive documents are not made of record as expediently as required.

6. Provide Notary Service to Technical Services and ensure company documents are stored at the Records Center for safe keeping. Generate LRL quarterly reports.

**Minimum Job Qualifications:**

**EDUCATION:** AA degree or equivalent education with emphasis in real estate principles.

**TRAINING:**

**LICENSES / CERTIFICATIONS:** Notary Commission

**PRIOR EXPERIENCE:** Two years’ experience in the classification of Land Technical Specialist I

**KNOWLEDGE/ABILITIES:** Knowledge of Real Estate Principles and California Real Estate Law

**Application**

1) Progression to the classification of Land Technical Specialist II will occur when the employee:
   a) has met the above requirements of the higher classification, and
   b) has completed six months at the top wage rate or has completed at least 30 months in the previous classification on a regular basis.
   c) has demonstrated satisfactory performance in their current position.

**REAL ESTATE TECHNICAL SPECIALIST II (50074103)**

**Position Summary:**

- Prepares Formal Job Estimates and creates order number for Project Managers (PMs) within the group. Assist PMs in tracking costs through SAP reports.
- Maintain data of within the project tracking database (FRISBE), addresses questions regarding the database and coordinates enhancement documentation for the database.
- Ensures compliance with company policy and procedures and with regulatory guidelines.
- Conducts audits of completed projects to ensure compliance issues are met.

**Essential Job Functions:**

1. Preparation of Formal Job Estimates for PMs who manage and maintain facilities within the various Areas. Review scope of work, schedules to determine proper allocation of Company indirects and overheads. Verify and detail units of property or assets to be retired or installed to assure compliance with Capital Accounting’s requirements.
2. Specific Orders – creates and maintains specific orders through the SAP system for each project. Additionally, each order created requires the detailed planning of costs by activity and cost elements.

3. Project Tracking – creates and maintains records for each project in the FRISBE database to assure current information is available for the PMs. Performs testing of enhancements within FRISBE to assure successful implementation and coordinates with programmer and counterparts to resolve any problems that may arise. Conducts individual or group training on all of the aspects of the FRISBE database as required. Also responsible for updating the database User Guide.

4. SAP Accounting System – generates ongoing reports for each project to aid the PMs on tracking project costs. Continually coordinates and downloads data from SAP into the project tracking database so that current information is readily available.

5. Metric Measure – compiles data for various measures that have been identified to be tracked to assure compliance. Run reports from FRISBE, verify if data is correct, perform calculations based on formulas within the guideline instructions and provide results to management on a monthly basis.

6. Project File Audit – conduct audits of up to four projects per month that falls within the criteria being measured.

7. Web Site Coordinator – updates documents and other information on the Web site pertaining to the group Building Projects Delivery.

**Minimum Job Qualifications:**

**EDUCATION:** 1 year of college.

**TRAINING:** SAP, CMS Web Tool, MS Word, Excel, PowerPoint

**LICENSES / CERTIFICATIONS:** N/A

**PRIOR EXPERIENCE:**

**KNOWLEDGE/ABILITIES:** Job Estimate requirements for structures and improvements of Common Utility Plant

**Application**

1) Progression to the classification of Real Estate Technical Specialist II will occur when the employee:
   a) has met the above requirements of the higher classification, and
   b) has completed six months at the top wage rate or has completed at least 30 months in the previous classification on a regular basis.
   c) has demonstrated satisfactory performance in their current position.

**SENIOR LAND TECHNICAL SPECIALIST**

**Position Summary:**

The Senior Land Technical Specialist insures preparation of Statement of Land Change and accompanying maps to be filed with State Board of Equalization to meet quarterly reporting requirements for the reporting of any changes to the status of any company property. Prepares and submits yearly Foreign Improvement Report to Capital Accounting. Maintains databases and file maintenance for SAROS/BLI/GIS/EDMS/SAP/ Capital Accounting SBE Lists. Responds to...
inquiries from Land Services Offices, Capital Accounting, Tax Department and other Business Partners regarding PG&E fee parcels.

**Essential Job Functions:**
1. Review various land and other land rights documents for the determination of: legal description, terms and conditions, tax and other implications that affect tax reporting, and any other factors that insure accurate and proper reporting to the SBE.

2. Preparation of Statement of Land Changes on a quarterly basis: processes incoming documents, gathers appurtenant data (APN maps, location sketch and any other related drawings or maps); assign SBE Map number; review of documents; prepare and forward sketch of draft map to mapping; review and revise final map as necessary to insure accuracy of data; prepare 551 document (Statement of Land Changes) and submit to Capital Accounting with map for submission to SBE; update BLI records, input data for uploading, scan maps and upload into EDMS; maintain and file final map; forward new maps as appropriate.


4. Responds to inquiries regarding the status of fee property and lease hold interests.

5. Prepare yearly Foreign Improvement Report.

**Minimum Job Qualifications:**

**EDUCATION:** AA degree or equivalent education in the appropriate technical field.

**TRAINING:**

**LICENSES / CERTIFICATIONS:**

**PRIOR EXPERIENCE:** 2 years in the classification of Land Technical Specialist II and the demonstrated ability to perform work of a difficult nature as evidenced by the quality and quantity of work as a Technical Specialist II.

**KNOWLEDGE/ABILITIES:**

**SENIOR REAL ESTATE TECHNICAL SPECIALIST (50074104)**

**Position Summary:**
- Directs the preparation of Formal Job Estimates, creation of Settlement Rules and Specific Orders in accordance with the policies and procedures issued by the Capital Accounting Department. Oversees the cost tracking methods used by the Real Estate Technical Specialists I and II (RETS I and II) to assure consistent and accurate reports are issued to the clients.
- Oversees and directs the maintenance and enhancements to the project tracking database (FRISBE).
- Coordinates annual requests for Capital and Expense budgets. On an ongoing basis, monitors, tracks and reports on the status of forecasted, budgeted and actual cost variations.
- Mentors RETS I and II.

**Essential Job Functions:**
1. Capital and Expense Budgets – Teams with Program Managers to identify and document specific projects to be funded through approved budget allocations. Tracks and monitors variances through the project tracking database and prepares monthly Investment Planning
Reports for the Leadership Team. Assists the Supervising Business Planner in the preparation of 6 Quarter, Cycle and Spring/Fall Forecast Reports.

2. Specific Orders – creates and maintains specific orders through the SAP system for each project. Additionally, each order created requires the detailed planning of costs by activity and cost elements.

3. Project Tracking – creates and maintains records for each project in the FRISBE database to assure current information is available for the PMs. Performs testing of enhancements within FRISBE to assure successful implementation and coordinates with programmer and counterparts to resolve any problems that may arise. Oversees individual or group training on all of the aspects of the FRISBE database as required.

4. SAP Accounting System – generates ongoing reports for each project to aid the Leadership Team in tracking project costs, budget allocations and commitments. Continually coordinates SAP requirements with other team members within the Project Management Office.

5. Metric Measure – compiles data for various measures that have been identified to be tracked to assure compliance. Verifies accuracy of monthly Metrics Reports prior to submittal to PMO Supervisor.

6. Project File Audit – When the RETS II is unavailable, conducts audits of up to four projects per month that fall within the Metrics criteria being tracked.

7. Web Site Coordinator – Assists with updating and creating of documents and other information on the Web site pertaining to the Building Project Delivery group.

8. Mentor and Training – Provide mentoring and training as required to the RETS I and II on an ongoing or as required basis.

Minimum Job Qualifications:

EDUCATION: BA or BS Degree or equivalent experience.

TRAINING: SAP, CMS Web Tool, MS Word, Excel, PowerPoint, Access

LICENSES / CERTIFICATIONS: N/A

PRIOR EXPERIENCE: Assoc. PM Analyst., Project Management Analyst.

KNOWLEDGE/ABILITIES: GAAP, Knowledge of Common Utility Plant Facilities, Oral and written Communications skills.

PRINCIPAL LAND AGENT (ADDED 2/24/07) (50111357)

Position Summary:
The Principal Land Agent working under the direction of the unit Supervisor, shall function in a lead role, direct, review and approve the work of lower classifications and provide guidance for “stalled” negotiations and for all projects requiring the highest level of experience and expertise in land rights matters; is regarded as a technical expert for essential job functions, provides structured guidance and training to lower classifications Reviews title of both fee land and land rights for company projects as well as for those special projects as may be required by the Company, including land rights documents to insure they are legally sufficient and conform to Company policy. Provides oversight, advice, guidance, technical direction and training to lower classifications and advises PG&E management and other business partners on all matters relating to land rights, title issues, rearrangement of PG&E facilities, third party uses of company
lands and easements. Responsible for preparation of contracts for review of title and oversees contract agents. May discuss title and land rights matters requiring higher levels of experience and expertise with private, public, or governmental bodies and agencies. May provide expert witness testimony in local and state courts regarding land related matters. May act as land rights liaison to the Law Department.

Essential Job Functions:
1. Oversight, Guidance, Technical Direction and Training: Provides oversight, guidance, technical direction and training to Land Services staff on: complex land rights issues, uses of company lands and easements by others including adherence to CPUC Code Section 851, and high-level technical and legal support to Land Services staff, supervisors and other Land Services groups and business partners. Ensures adequacy of land rights and conformance to CPUC tariffs regarding acquisition of land rights for New Customer Connections (NCC’s). Ensures adherence to company policy regarding relocations. Collaborates in developing and implementing strategies for dealing with complex relocation projects. Oversees and ensures adherence to various master agreements with transportation agencies including the Caltrans Freeway Master Contract as well as the Streets and Highway Code, governing the rearrangement of company facilities for highway and freeway construction. Plans and oversees the work of contract agents related to title reviews, including training and guidance.

2. Legal Research and Determination of Land Rights: Research and respond to title questions. Is familiar with the Subdivision Map Act, the Subdivided Lands Law, the Professional Land Surveyors Act, various California legal codes pertaining to real property, easement law, notary law, recording law, taxation, and those portions of other codes, CPUC rules and company policies which are most frequently applied to company land rights and title matters, and consults with Law Department when appropriate. May provide investigative support to the Company’s Law Department in defense of civil claims and actions against the Company, customer generated CPUC complaints, or in support of Company actions against others.

3. Line, Title, Timber, Water and Mineral Rights Review: Completes the more difficult and complex reviews. Determines the condition of title to PG&E’s fee property and facilities. Advises Business Partners which rights must be protected or terminated in connection with a proposed project. Prepares line reviews for PG&E’s electric and gas transmission facilities using the Land Rights Unit’s standard line review formats which include a summary of PG&E’s land rights and identification of special conditions or restrictions and any gaps in the rights of way.

4. Property Purchase and Sales Review:
   - **Property purchase:** Reviews preliminary title reports prepared by outside title companies for the parcel to be acquired. Determines if the title to be conveyed to PG&E is acceptable and initiates appropriate action. Make recommendations of action to be taken, if any, to clear title to the property as a condition to closing the transaction.
   - **Property sales:** Prepares title reviews for sales transactions. Involves a review of the chain of title, identification of grants out made by PG&E affecting the property and review of the buyer’s preliminary title report prepared by a title company. Provides direction to the document writer on how title is to be conveyed. Reviews the historical use of the property while owned by PG&E, as well as information which must be disclosed to the prospective buyer including identification of special conditions which may affect the sale transaction.

5. Document Review: Reviews changes to Law Department approved standard documents. Provides direction and guidance to lower classifications, and assists Land Services supervisors and other business partners to assure the integrity, adequacy and legal sufficiency of documents relating to land rights in conformance with Company policy. Reviews real estate related documents prior to management execution.
6. Represent the Company: Discuss title and land matters requiring higher levels of experience and expertise with private, public, or governmental bodies and agencies beyond the scope or authority of lower classifications.

Minimum Job Qualifications:

EDUCATION: Four years of college in a technical or liberal arts curriculum or the equivalent in education and/or experience.

PRIOR EXPERIENCE: A minimum of five years as a Senior Land Agent and must have demonstrated the ability to perform such work as evidenced by the quality and quantity of the work product.

KNOWLEDGE/ABILITIES: Must be able to make effective oral and written presentations on title and land matters. Must possess a working knowledge of applicable related CPUC rules and tariffs and Code of Federal Regulations. Must possess a working knowledge of local, state and federal laws and regulations concerning land and land related matters.

Filling Vacancies:
The provisions of Title 21 as described in Attachment A of Exhibit R shall govern the filling of Principal Land Agent vacancies. Selection shall be made after consideration of all the stated requirements.

SENIOR LAND AGENT (50074110)

Position Summary:
Reviews title of both fee land and land rights for company projects as well as for those special projects as may be required by the Company, including land rights documents to insure they are legally sufficient and conform to Company policy. Provides oversight, advice, guidance, technical direction and training to lower classifications and advises PG&E management and other business partners on all matters relating to land rights, title issues, rearrangement of PG&E facilities, third party uses of company lands and easements. Responsible for preparation of contracts for review of title and oversees contract agents. May discuss title and land matters requiring higher levels of experience and expertise with private, public, or governmental bodies and agencies.

Essential Job Functions:
1. Oversight, Guidance, Technical direction and Training: Provides oversight, guidance, technical direction and training to lower classifications and advises PG&E management and other business partners on all matters relating to land rights, title issues, rearrangement of PG&E facilities, third party uses of company lands and easements. Responsible for preparation of contracts for review of title and oversees contract agents. May discuss title and land matters requiring higher levels of experience and expertise with private, public, or governmental bodies and agencies.

2. Legal Research and Determination of Land Rights: Research and respond to title questions. Is familiar with the Subdivision Map Act, the Subdivision Land Act, the Professional Land Surveyors Act, various California legal codes pertaining to real property, easement law, notary law, recording law, taxation, and those portions of other codes, CPUC rules and company policies which are most frequently applied to company land rights and title matters, and consults with Law Department when appropriate.
3. Line, Title, Timber, Water and Mineral Rights Review: Completes the more difficult and complex reviews. Determines the condition of title to PG&E’s fee property and facilities. Advises Business Partners which rights must be protected or terminated in connection with a proposed project. Prepares line reviews for PG&E’s electric and gas transmission facilities using the Land Rights Unit’s standard line review formats which include a summary of PG&E’s land rights and identification of special conditions or restrictions and any gaps in the right of way.

4. Property Purchase and Sales Review:
   - **Property purchase:** Reviews preliminary title reports prepared by outside title companies for the parcel to be acquired. Determines if the title to be conveyed to PG&E is acceptable and prepare instructions regarding the exceptions to insurance listed in the prelim to be used by Land Acquisition in a letter to the title company. Make recommendations of action to be taken, if any, to clear title to the property as a condition to closing the transaction.
   - **Property sales:** Prepares a title review for the sales transactions. Involves a review of the chain of title, identification of grants out made by PG&E against the property and review of the buyer’s preliminary title report prepared by a title company. Provides direction to the document writer on how title is to be conveyed. Involves a review of the historical use of the property while owned by PG&E, as well as information which must be disclosed to the prospective buyer including identification of special conditions which may affect the sale transaction.

5. Document Review: Reviews changes to Law Department approved standard documents. Provides direction and guidance to lower classifications, and assists LSO supervisors and other business partners to assure the integrity, adequacy and legal sufficiency of documents relating to land rights and conform to Company policy.

6. Represent the company: Discuss title and land matters requiring higher levels of experience and expertise with private, public, or governmental bodies and agencies beyond the scope or authority of lower classifications.

**Minimum Job Qualifications:**

**EDUCATION:** Four years of college in a technical or liberal arts curriculum or the equivalent in education and/or experience.

**TRAINING:**

**LICENSES / CERTIFICATIONS:**

**PRIOR EXPERIENCE:** A minimum of one year as a Land Agent and must have demonstrated the ability to perform such work as evidenced by the quality and quantity of the work product.

**KNOWLEDGE/ABILITIES:** Must be able to make effective oral and written presentations on title and land matters.
GIS ANALYST (50073852)

Position Summary:
The GIS Analyst performs GIS analysis and related tasks under direction of higher classification employees.

Essential Job Functions:
1. Interact with clients to assess business needs, coordinate with outside agencies, and contractors.
2. Perform all tasks with high level of client satisfaction.
3. Develop data layers: Design and manage data acquisition processes (vector or raster), acquire and convert data from outside sources, perform topological conversion, create and maintain metadata.
4. Produce cartographic output involving sophisticated analyses.
5. Perform basic to intermediate database queries, analyses and reports.
6. Perform basic to intermediate spatial analysis utilizing existing modeling tools.
7. Assist with applications development as needed, for example, helping to define business requirements, designing sample screen views and sample reports.
8. Perform basic data administration tasks on spatial data files and spatial RDBMS.
9. Obtain and customize new GIS tools, including scripts and utilities used to facilitate personal workflow.
10. Coach other GIS employees on areas of expertise.

Minimum Job Qualifications:

EDUCATION: BA/BS in Geomatics, Geography, GIS, or related field, or the equivalent in education and/or experience.

TRAINING:

LICENSES / CERTIFICATIONS:

PRIOR EXPERIENCE: Minimum one year experience in GIS Analysis at professional level, or demonstrated skill level via testing protocol to be determined.

KNOWLEDGE/ABILITIES:
1. Proficiency in GIS analysis including data conversion, spatial query, spatial overlay, and generalization tools using ArcView 3.x and ArcGIS 9.x or equivalent GIS software.
2. Advanced understanding of map projection, GPS, data acquisition processes, metadata, and data accuracy issues.
3. Working knowledge of command line Arc/Info or equivalent software.
4. Working knowledge of raster data processing using ESRI Spatial Analyst, 3D analyst extensions of ArcGIS and GRID and TIN modules of command line Arc/Info, or equivalent software.
5. Working knowledge of GIS modeling tools including linear referencing/ dynamic segmentation, Thiessen polygons, regions, network analysis.
6. Working knowledge of relational databases, basic knowledge of SQL language, or equivalent.
7. Knowledge of Oracle Spatial, SDE geodatabase applications and tools.
8. Experience creating maps, documents, and spatial data deliverables under fast-paced deadlines, with a high level of client satisfaction.
9. Working knowledge and experience with client business and client relationships.
10. Proficiency in technical writing and basic HTML web page design.
11. Proficiency in research and problem-solving skills. Ability to provide training for clients or contractors.
SENIOR GIS ANALYST (50083020)

Position Summary:
The Senior GIS Analyst performs advanced GIS analysis and related tasks under direction of higher classification employees.

Essential Job Functions:
1. Interact with clients to assess business needs, coordinate with outside agencies, market GIS services, and perform training as appropriate.
2. Perform all tasks with high level of client satisfaction.
3. Develop data layers: Design and manage data acquisition processes (vector or raster), acquire and convert data from outside sources, perform topological conversion, create and maintain metadata.
4. Produce intermediate to advanced cartographic output involving sophisticated analyses.
5. Perform intermediate to advanced database queries, analyses and reports.
6. Perform intermediate to advanced spatial analysis utilizing existing modeling tools.
7. Assist with applications development at an advanced level, for example, developing business requirement documents including preliminary layout of forms (input-output), sample reports, required algorithms pertinent to the application, and designing web-based help pages.
8. Perform intermediate to advanced data administration tasks on spatial data files and spatial RDBMS.
9. Obtain and customize new GIS tools, including scripts and utilities benefiting the GIS group.
10. Coach other GIS employees on areas of expertise.
11. Ability to perform all tasks of all lower classification GIS positions as needed.
12. Ability to manage projects with high client satisfaction and excellent communication.
13. Collaboratively direct the work of others.

Minimum Job Qualifications:

EDUCATION: BA/BS in Geomatics, Geography, GIS, or related field, or the equivalent in education and/or experience. Successful completion of two college level courses (semester or quarter) or 16 days of advanced coursework that directly applies to the skills described in the Senior GIS Analyst job description. Coursework may be taken via University Extension, through a vendor (e.g. ESRI, Oracle), or online, or equivalent. Successful presentation of a GIS topic to an internal or external audience (peer or audience review of success is documented).

TRAINING:

LICENSES / CERTIFICATIONS:

PRIOR EXPERIENCE: Minimum 30 months experience in GIS at GIS Analyst level or equivalent.

KNOWLEDGE/ABILITIES:

1. Proficiency in GIS analysis including data conversion, spatial query, spatial overlay, and generalization tools using ArcView 3.x and ArcGIS 9.x or equivalent GIS software.
2. Advanced understanding of map projection, GPS, data acquisition processes, metadata, and data accuracy issues.
3. Advanced knowledge of command line Arc/Info or equivalent software.
4. Advanced knowledge of raster data processing using ESRI Spatial Analyst, 3D analyst extensions of ArcGIS and GRID and TIN modules of command line Arc/Info, or equivalent software.
5. Advanced knowledge of GIS modeling tools including linear referencing/ dynamic segmentation, Thiessen polygons, regions, network analysis.
6. Advanced knowledge of relational databases, basic knowledge of SQL language.
Intermediate knowledge of Oracle Spatial, SDE geodatabase applications and tools.

Extensive experience creating maps, documents, and spatial data deliverables under fast-paced deadlines, with a high level of client satisfaction.

Experience developing, testing and supporting customized applications.

Working knowledge and experience with client business and client relationships.

Ability to evaluate outside data products.

Proficiency in technical writing and basic HTML web page design.

Proficiency in research and problem-solving skills.

Demonstrated excellent communication skills (written and oral).

Application:
1) Progression to the classification of Senior GIS Analyst will occur when the employee:
   a) has met the above requirements of the higher classification, and
   b) has completed six months at the top wage rate or has completed at least 30 months in the GIS Analyst position on a regular basis
   c) has demonstrated satisfactory performance in the GIS Analyst position
   d) has demonstrated the ability to manage time and workload for successful completion of project work.

GIS APPLICATION ENGINEER (50073854)

Position Summary:
The GIS Application Engineer performs GIS analysis, custom programming and related tasks under direction of higher classification employees.

Essential Job Functions:

1. Interact with clients to design and implement GIS solutions for client needs. Manage projects involving client accounts, with a high level of client satisfaction. Market GIS services to client organizations.

2. Develop custom GIS applications on various platforms including desktop, web-based, and mobile. This may include application design, database design, programming, testing, troubleshooting, and client support including training as appropriate.

3. Design and develop intermediate real-time database queries, analyses and reports using spatial RDBMS, including the use of sophisticated views, automated updates, and stored procedures.

4. Design and develop spatial analysis techniques utilizing industry-standard spatial modeling tools and extensive custom programming in GIS software or spatial databases.

5. Data management: Perform administrative tasks on GIS RDBMS databases, including Oracle (Spatial) and SQL Server, or equivalent. Ensure reliability and data integrity of databases.

6. Analyze system performance, improve processes, evaluate outside data sources and software.

7. Acquire, evaluate and modify scripts for the benefit of the GIS group and its clients.

8. Ability to perform all tasks of all lower classification GIS positions as needed.

9. Ability to manage projects with high client satisfaction and excellent communication.

10. Collaboratively direct the work of others.

Minimum Job Qualifications:

EDUCATION: BA/BS in Geomatics, Geography, GIS, or related field, or the equivalent in education and/or experience. Successful completion of two college level courses (semester or quarter) or 16 days of advanced coursework in programming that directly applies to the skills described in the GIS Application Engineer job description. Coursework may be taken via University Extension, through a vendor (e.g. ESRI, Oracle), or online, or equivalent.

TRAINING:
LICENSES / CERTIFICATIONS:

PRIOR EXPERIENCE: Minimum four years' experience in GIS at the Senior GIS Analyst level or equivalent.

KNOWLEDGE/ABILITIES: (The following describes the general skills needed; it is not intended to be an exhaustive list and different skill levels will be appropriate to different bands within this classification.)

1. Intermediate to advanced working knowledge in Visual Basic for ArcGIS, VBscript, Javascript for Active Server Pages, PL-SQL programming, or equivalent.
2. Intermediate to advanced working knowledge of Oracle Spatial and SDE geodatabase applications and tools, or equivalent.
3. Intermediate to advanced working knowledge of client business.
4. Advanced problem-solving and research skills. Ability to implement sophisticated geometric algorithms.
5. Intermediate to advanced working knowledge of relational databases and SQL language, or equivalent.
6. Intermediate to advanced working knowledge of GIS modeling concepts and practices including linear referencing / dynamic segmentation. Theissen polygons, regions and network analysis.

RIGHT OF WAY AGENT (50074105)

Position Summary:
Under direction of the unit Supervisor, the Right of Way Agent (“ROW Agent”) provides support to the unit and other Land Services team members and assists in all phases of acquisition activities. The ROW Agent also negotiates the acquisition of land rights for fee title, easements, leases, and other interests required for Company utility facilities. Other duties include ordering and reviewing appraisals and title reports, providing support for condemnation actions, providing support and services for the Project Damage Assessment and Resolution Program (PDARP), providing property owner notifications, updating and inputting information into Land project tracking and estimating programs, coordinating the recordation of easements and other support functions for the Acquisition Unit.

Essential Job Functions:
Under the direction of the Supervisor, Principal, or Senior ROW Agents:

Acquisition: negotiates or assists in negotiating the acquisition of real property and property rights for Company utility facilities. Coordinates the preparation of documents for acquisition of property and land rights, generates property owner lists, provides property owner notification for survey and biological studies, construction, vegetation management, and other projects, and prepares Release to Construction letters.

Appraisal: assembles the necessary documentation required for delivery to the designated project appraiser(s). Under direct supervision, review and analyze appraisal reports.

Support for Condemnation Proceedings: provides file history and necessary information for condemnation proceedings; orders the condemnation package, and upon review and approval by senior staff, insures delivery to the appraiser and attorneys. In less complex negotiations, the ROW Agent may request initiation of condemnation actions as instructed by the Supervisor or Principal ROW Agent to ensure timely release of projects to construction.
Project Damage Assessment & Resolution: assists with or provides project damage resolution services on projects as directed in accordance with PDARP.

Real Estate/Escrow Responsibilities: responsible for: requesting checks for condemnation proceedings; monitoring the State Condemnation Fund statement and account; depositing checks with State Condemnation Fund; processing refund checks; drafting escrow instructions; ordering title reports and updates as necessary; processing payment for reports; obtaining title reviews as necessary.

Acquisition Administration: responsible for inputting information into project estimating and project tracking programs. Obtain/request project cost data and compile information as requested. Assist in preparing payment schedule spreadsheets. Track and process Land documents, process land drafts for IRS reporting by clerk and process requests for checks for payments for land rights and other expenditures.

File Management Coordination: establish job folders, obtain all necessary project specific data, prepare working file folders, prepare and maintain ownership folders containing all pertinent letters, appraisals, summaries, documents and condemnation exhibits.

Contract Administration: assist with the development of Contract Work Authorizations, Contract Change Orders, or other associated documents as requested to obtain services of contract appraisers and right of way agents.

Minimum Job Qualifications:

Education: BA/BS in related field or equivalent education and/or experience

Training: International Right of Way Association courses or equivalent (desired)

Licenses/Certifications: Notary Public – current or obtained within six (6) months of employment.

Prior Experience:

**SENIOR RIGHT OF WAY AGENT (50074106)**

**Position Summary:**

The Senior Right of Way Agent (“Sr. ROW Agent”) works under the direction of the unit Supervisor and is responsible for negotiating the acquisition of all necessary land rights for Company utility facilities and takes a lead role in acquisition of land rights for major projects including, but not limited to: extensive experience with negotiating for complex land rights, including easement and fee acquisitions and contract preparation; possesses a higher level of knowledge and expertise in acquisition matters; provides support as requested by Law Department for settlement agreements or condemnation proceedings; provides direction, instruction, and work review, as necessary, to other Right of Way Agents and contractors; assists with or provides project damage assessment and resolution services in accordance with PDARP; is responsible for providing project cost estimates and schedules to both business partners and to the Land Services Project Management team.

**Essential Job Functions:**

Under direction of the Supervisor or Principal Right of Way Agent:

Acquisition: negotiates to acquire land rights for Company projects. Analyzes and makes recommendations to the Supervisor relating to administrative settlements. Prepares and
negotiates terms and conditions for special contracts and agreements, non-standard easements and supplemental agreements with property owners. Provides input for complex feasibility studies. Participates in complex acquisitions and provides estimate of costs, and proposed schedules for major projects throughout the system. Gather and analyze market data to prepare property value analysis and develop land payment schedules. Provides direction to ROW Agents and/or contract agents regarding negotiation and acquisition of land rights. Negotiates, modifies and implements all Railroad Master Agreements or similar agreements with other agencies.

Appraisal: responsible to arrange for the appraisal of land for fee purchase and acquisition of easement rights. Prepares appraisal review documentation and complies with the accepted appraisal procedures and guidelines. Under the direction and guidance from Law Department, assist in providing value declarations for condemnation actions and related legal proceedings.

Support for Condemnation Proceedings: requests initiation of condemnation proceedings as appropriate to ensure timely release of projects to construction. Orders, reviews, approves and distributes project condemnation packages to appraisers and attorneys. Informs and advises clients of impact of condemnation proceedings on EDRO scheduling. Serve as an expert witness in condemnation proceedings and participates in pretrial and trial proceedings if requested by the Law Department.

Project Damage Assessment & Resolution: assists with or provides project damage assessment and resolution services on assigned projects in accordance with PDARP.

Contract Administration: is responsible for managing project specific acquisition related contracts, writing contract specifications, requests for proposals, and participates in selecting qualified contractors through competitive bid process. The Sr. ROW Agent also directs contract agents for assigned projects and is a liaison between clients, contractors and property owners.

Minimum Job Qualifications:

Education: BA/BS in related field or equivalent education and/or experience.

Licenses / Certifications: Notary Public; Complete all course work for International Right of Way Association SR/WA designation; California Real Estate Broker license (desired)

Prior Experience: 30 months experience in unit or equivalent.

Application Progression to the classification of Senior Right of Way Agent will occur when the employee:

a) has met the above requirements of the higher classification and
b) has completed six months at the top wage rate or has completed at least 30 months in the previous classification on a regular basis.
c) has demonstrated satisfactory performance in their current position.

PRINCIPAL RIGHT OF WAY AGENT (50074107)

Position Summary:
The Principal Right of Way Agent ("Principal ROW Agent") working under the direction of the unit Supervisor, shall function in a lead role, direct, review and approve the work of lower classifications and contractors, and assume responsibility for "stalled" negotiations and for all projects requiring the highest level of experience and expertise in acquisition matters; is regarded as a technical expert for essential job functions; negotiates the acquisition of complex fee property purchases and manages the more complex land acquisition projects; will provide structured guidance and training to lower classifications.

Essential Job Functions:
Under the direction of the Supervisor:

Acquisition: Negotiates to acquire land rights for the more complex acquisition projects. Leads and/or directs lower classification agents and/or contract agents in negotiations. Negotiates special terms and conditions and resolves complex real estate problems and conducts investigations to determine appropriate action. Prepares and negotiates special contracts and agreements and oversees preparation of non-standard easements. Interprets and prepares property value analysis. Develops land payment schedules. Requests initiation of condemnation proceedings as appropriate to ensure timely release of projects to construction and may be called to serve as an expert witness in condemnation proceedings.

Appraisal: Is responsible for the Appraisal Review for fee purchases, acquisition of easements and other land rights; Prepares value declarations for condemnation and other legal proceedings. Reviews appraisals in cases where agencies are condemning PG&E or third parties are acquiring PG&E property.

Support for Condemnation Proceedings: In consultation with the Law Department, responsible for ensuring accuracy and completeness of condemnation packages submitted to appraisers and attorneys. Assists, as requested by the Law Department, in the preparation of declarations which state and confirm the necessity and land values for condemnation proceedings. Participates in pretrial and trial proceedings as requested.

Project Damage Assessment & Resolution: Provides or directs Sr. ROW Agents and ROW Agents in the provision of project damage assessment and resolution services in accordance with PDARP. May serve as the PDARP program manager and provide PDARP technical guidance and training to unit staff, other Land Services groups, project team members and/or project business partners.

Training: Develops and implements training programs and manuals for the unit as well as other Land Services employees and/or business partners.

Contract Administration: Oversee all aspects of acquisition/appraisal related contracts; write contract specifications if required, requests for proposals, and act as a liaison with Procurement and Law Departments. Helps select qualified contractors through competitive bid process. Directs contract agents for assigned projects and acts as a liaison between project business partners, contractors and property owners.

**Minimum Job Qualifications:**

Education: BA/BS in related field or equivalent education and/or experience

Licenses / Certifications: Notary Public; International Right of Way Association SR/WA designation or equivalent professional designation; California Real Estate Broker license (desired)

Prior Experience: 5 years of experience in unit or equivalent.

**PROJECT SURVEYOR (50074111)**

**Position Summary:**
Under the direction of Senior Staff the Project Surveyor leads a team composed of field and office Land Engineering personnel, as well as contractors to provide surveying, mapping, legal descriptions and drawings for the planning, construction and maintenance of proposed and existing company facilities. Works with engineers, planners, construction personnel, project managers and other business partners in assessing project needs. Develops and maintains work plans, schedules and cost estimates in support of these activities.
Essential Job Functions

- Support survey crews working in the field. Establish scope, responsibilities, and performance standards for specific projects.
- Provide the research required for projects, existing mapping, related land documentation, and liaison with clients.
- Coordinate the resources required to complete mapping and related land documents once the fieldwork has been completed.
- Provide technical expertise and direction to Land Technicians working in office and field environments.
- Project Coordination to include acting as a liaison between various sections within Land Services and business partners to ensure timely completion of projects.
- Provide technical guidance and ensure compliance with legal requirements and PG&E standards for surveying, mapping and land-related documents.
- Establish ongoing dialog with business partners to ensure suitability and satisfaction with Land Engineering products and services.
- Coordinate the preparation of legal descriptions, maps and exhibits required for the condemnation process.
- Establish exact alignment of new facilities with the assistance of the gas or electric engineer.

Minimum Job Qualifications:

TRAINING: Must meet the minimum requirements to sit for the California Land Surveyor’s Exam (See requirements below)

LICENSES / CERTIFICATIONS: Land Surveyor in Training (LSIT)

PRIOR EXPERIENCE: Graduation from a 4 year curriculum with an emphasis in Land Surveying and 2 years of broad based progressive experience in Land Surveying including 1 year of responsible field training and 1 year responsible office training

OR

Six years broad based progressive experience in Land Surveying including 1 year of responsible field training and 1 year responsible office training

OR

Registration as a Civil Engineer with 2 years actual broad based progressive experience in Land Surveying.

SENIOR LAND SURVEYOR (50074112)

Position Summary:
Leads a team composed of field and office Land Surveying personnel, as well as contractors to provide surveying, mapping, legal descriptions and drawings for the planning, construction and maintenance of proposed and existing company facilities. Works directly with engineers, planners, construction personnel, project managers and other business partners in assessing project needs. Develops and maintains work plans, schedules and cost estimates in support of these activities. Provides direction to the Project Surveyor, Chief of Party, Land Technicians and other field and office surveying personnel. Applicants must be licensed as a California Land Surveyor or pre 1982 California Registered Civil Engineer.

Essential Job Functions
- Support survey crews working in the field. Establish scope, responsibilities, and performance standards for specific projects.
• Provide the research required for projects including existing mapping, related land documentation, and liaison with clients.
• Coordinate the resources required to complete mapping and related land documents once the fieldwork has been completed.
• Provide technical expertise and direction to Land Technicians working in office and field environments in the performance of boundary, topographic, plan & profile, settlement and other types of land surveying, mapping and data collection.
• Project Coordination to include acting as a liaison between various sections within Land Services and business partners to ensure timely completion of projects.
• Provide technical guidance and ensure compliance with legal requirements and PG&E standards for surveying, mapping and land-related documents.
• Establish ongoing dialog with business partners to ensure suitability and satisfaction with Land Engineering products and services.
• Responsible for stamping all legal descriptions and maps per local and state regulations.
• Coordinate the preparation and approval of legal descriptions, maps and exhibits (pink package) required for the condemnation process.
• Establish exact alignment of new facilities with the assistance of Transmission Engineer or Pipeline Engineer, Project Manager, Land Services Staff, environmental experts and construction personnel.
• Prepares and testifies as an Expert Witness on Land related issues

Minimum Job Qualifications:

EDUCATION: BS Degree in Surveying, Geomatics, Civil Engineering or related field (Desired)

LICENSES / CERTIFICATIONS: Licensed as a California Land Surveyor or pre 1982 California Registered Civil Engineer. (Required)

PRIOR EXPERIENCE: Project Surveyor or equivalent experience

Application
1) Progression to the classification of Senior Land Surveyor will occur when the employee:
   a) has met the above requirements of the higher classification, and
   b) has completed six months at the top wage rate or has completed at least 30 months in the previous classification on a regular basis.
   c) has demonstrated satisfactory performance in their current position.

PRINCIPAL LAND SURVEYOR (50074113)

Position Summary:
As a top-level professional the Principal Land Surveyor works independently under minimal direction. Directs the preparation of survey engineering designs, specifies methodologies, and implements engineering surveys for the most complex, large-scale projects. Directs the activities of Senior Land Surveyors, Project Surveyors, Chief of Party and other field and office personnel, as well as contractors to provide surveying, mapping, legal descriptions and related products in support of major company projects. Works directly with planners, engineers and business partners in assessing project needs and developing plans and schedules in support of these activities. Meets and negotiates with planning departments, local, state and federal agencies to insure protection of the company's interests. Prepares and testifies as an Expert Witness on Land related issues. Candidates must be licensed as a California Land Surveyor or pre 1982 California Registered Civil Engineer.
**Essential Job Functions:**

- Designs layouts, prepares survey specifications, checks plans, develops solutions and devises new approaches to problems encountered.
- Prepares feasibility study of projects, including preliminary designs, estimates and cost breakdowns.
- Evaluates, selects and modifies techniques, procedures and criteria of special projects.
- Leads and provides assistance in project coordination to include teams of combined management and bargaining unit staff to provide professional and efficient service to clients of Land Engineering services.
- Provide technical expertise and direction to Land Technicians working in office and field environments in the performance of boundary, topographic, plan & profile, settlement and other types of land surveying, mapping and data collection.
- Responsible for stamping all legal descriptions and maps per local and state regulations prepared under the direction of.
- Provides the training required to maintain and improve surveying and mapping procedures.
- Provide support and direction to Project Surveyors and Senior Land Surveyors. Communicate project objectives, timelines and other goals to employees and set examples to ensure satisfaction of objectives and achievement of project goals.
- Use teamwork and consensus decision-making to accomplish highest priority work. Promote and actively engage in resource sharing with Land Engineering units in other locales within the company to ensure timely completion of project-related activities. Work in partnership with other groups within Land Projects as well as ESC to develop a highly motivated and competitive engineering workforce.
- Incorporate quality and efficiency in every aspect of Land Engineering work processes to reduce costs and improve customer service. Lead the engineering group to understand and commit to excellence in project design and completion, and personally exemplify superior customer commitment.
- Prepares and testifies as an Expert Witness on Land related issues.

**Minimum Job Qualifications:**

**EDUCATION:** BS Degree in Surveying, Geomatics, Civil Engineering or related field (Desired)

**TRAINING:** Minimum four (4) years’ experience as a Senior Land Surveyor or equivalent experience

**LICENSES / CERTIFICATIONS:** Licensed as a California Land Surveyor or pre 1982 California Registered Civil Engineer (Required).

**LAND PLANNER (50074114)**

**Position Summary:**

The Land Planner is responsible for providing land-related technical project support for the construction, operation, and maintenance of PG&E facilities. Some of those responsibilities include, but are not limited to: acquisition of routine governmental permits and ensure ESA/CESA compliance for PG&E projects; under the direction of senior staff, is responsible for the land component of regulatory filings; ensures electric transmission projects are in compliance with CPUC's G.O. 131-d, including the preparation and filing of Notices of Construction (NOC); perform routing and siting; ensure FERC license compliance; develop and monitor land-related project budgets and schedules; perform recreation facility operation and maintenance; perform property management of hydroelectric watershed lands; negotiate the acquisition of essential permits and clearances from regulatory agencies; research and analyze public records and regulatory requirements; present projects to the public via information programs or public
hearings; analyze local development plans and policies for impacts to PG&E operations; provides guidance, technical direction, and legal liaison to local Land Service offices.

**Essential Job Functions:**
1. Permitting/Notifications: Obtain all permits and clearances required for the construction, operation and maintenance of PG&E’s facilities. Contribute to the development of project descriptions. Coordinate cultural and ES studies for permit acquisition and work with ES to develop protection and mitigation measures. Work with revegetation contractor and Construction to implement permit conditions. Acquire permissions from landowners or coordinate with R/W Agents to negotiate for new rights. Work with Land Engineering for survey and document preparation. During and upon project completion, ensure permit conditions have been met.

2. Regulatory Filings: Under the direction of senior staff, may be required to; support environmental, land engineering, and acquisition teams responsible for completing land component of CPUC/CEQA compatible filings for electric and gas transmission construction projects; negotiate project scope of work with the project sponsor or project manager; prepare contract Specifications and/or Request for Proposals (RFP) to contract the performance of environmental studies, investigations, and preparation of the Proponents Environmental Assessment (PEA) for inclusion with PG&E’s application to the CPUC; monitor the work of the Consultant.

3. Review and Compliance: Review routine gas and electric projects in regards to permitting issues and/or ESA/CESA and cultural resource compliance. As necessary, coordinate ESA/CESA studies and recommendations with ES. Review routine electric transmission projects to ensure compliance with GO 131-D, including the preparation and filing of Notice of Constructions (NOC).

4. Routing and Siting: Under the direction of senior staff, perform routing and siting for new/relocated PG&E gas and electric transmission facilities. Includes identification of corridors appropriate for installation of new facilities, siting of fee property acquisitions, compatibility with local land uses, engineering requirements, environmental constraints, public concerns, and development of land project schedules and cost estimates. Under the guidance of senior staff, consults with Technical Services clients such as, but not limited to, General Construction, CGT, Transmission Engineering, Transmission Planning, Hydro Generation, and Law Department to determine the appropriate level of Technical Services involvement.

5. FERC Compliance: Ensure compliance with FERC License conditions in all matters related to recreation, land rights and land management. This includes unauthorized uses within the FERC boundary or Hydro fee lands, boat dock management, leases and licenses, new developments, negotiations with property owners and governmental agencies. Provide recreation operation and maintenance management for improvements within the FERC boundary through contract management and coordination with Hydro. Ensure all public facilities are safe for the general public and comply with the FERC license and the recreation contract. Monitor watershed lands for the protection of significant and sensitive cultural and natural resources.

6. Research and Analysis: Research and analyze PG&E and public records to assess land rights, land uses, and constraints; regulatory jurisdictions; local, state, and federal permit requirements; develop strategies to mitigate public concerns regarding the construction, operation, and maintenance of PG&E facilities. Provide assistance to Real Estate Strategy relative to local approvals required for the sale or purchase of PG&E property. Extrapolation of Hydro Lands information to satisfy information requests from the Land Stewardship Council. (I thought we had agreed to remove)

7. Land Rights: Investigate, provide guidance, technical direction and legal liaison to LSO staff on land issues. Ensure adherence to company policy regarding development and uses within the FERC boundaries. Represent the company at public meetings regarding company policies.
Minimum Job Qualifications:

EDUCATION: BA/BS with emphasis in Land Use/Environmental Planning, Recreation Management, Business or related resource field or the equivalent in education or experience.

TRAINING:

LICENSES / CERTIFICATIONS

PRIOR EXPERIENCE:

KNOWLEDGE/ABILITIES: Strong written and oral communication skills; strong team-building and facilitation skills; strong organization skills; goal oriented, ability to manage concurrent responsibilities. Applied knowledge of CEQA/NEPA and the CESA/ESA, FERC and other resource laws.

SENIOR LAND PLANNER (50074115)

Position Summary:
The Senior Land Planner is responsible for providing land-related technical project support for the construction, operation, and maintenance of PG&E facilities, typically working on projects of a more complex nature. As a senior member of multi-disciplinary project teams, the position is responsible for, but not limited to, the following: provide technical support for FERC relicensing, recreation facility operation and maintenance, perform property management of hydroelectric watershed lands, and license compliance for PG&E hydroelectric facilities; perform feasibility studies and ensure ESA/CESA compliance and cultural resource compliance for complex gas and electric projects; perform routing and siting for PG&E facilities; develop and monitor land-related project budgets and schedules; support land project teams responsible for the land component of regulatory filings; perform environmental assessments of project alternatives; negotiate the acquisition of complicated or sensitive permits and clearances from regulatory agencies; research and analyze PG&E/public records to develop strategies for the construction, operation, and maintenance of PG&E facilities; present projects to the public via information programs or public hearings; provide guidance, technical direction, and legal liaison to LSO staff on land issues; and analyze federal and state legislation and local development plans and policies for impacts on PG&E operations; monitor the work of contractors.

Essential Job Functions:

1. Routing/Siting and Feasibility Studies: Perform routing and siting for new/relocated gas and electric transmission facilities and fee properties. Develop alternatives for siting and locating electric and gas transmission facilities utilizing environmental and regulatory planning documentation and consultation with local planning agencies. Perform necessary studies to incorporate engineering requirements, environmental constraints, public concerns, and existing and proposed land uses into an alternative site analysis. Develop alternative site costs and schedules and assist in the evaluation of site risks including anticipated regulatory approval processes and timelines.

2. Regulatory Filings: Support environmental, land engineering, and acquisition teams responsible for completing land component of CPUC/CEQA compatible filings for electric and gas transmission construction projects. Negotiate project scope of work with the project sponsor or project manager. Prepare contract Specifications and/or Request for Proposals (RFP) to contract the performance of environmental studies, investigations, and preparation of the Proponents Environmental Assessment (PEA) for inclusion with PG&E’s application to the CPUC. Monitor the work of the Consultant. Responsible for cost and schedule performance of land project team.

3. Permitting/Notifications: Obtain all discretionary permits and clearances required for the construction, operation and maintenance of PG&E’s facilities. Contribute to the development of
project descriptions. Coordinate cultural and ES studies for permit acquisition and work with ES to develop protection and mitigation measures. Work with revegetation contractor and construction to implement permit conditions. Acquire permissions from landowners or coordinate with R/W Agents to negotiate for new rights. Work with Land Engineering for survey and document preparation. During and upon project completion, ensure permit conditions have been met.

4. Review and Compliance: Review complex gas and electric projects in regards to permitting issues and/or ESA/CESA and cultural resource compliance. As necessary, coordinate ESA/CESA studies and recommendations with ES. Review complex electric transmission projects to ensure compliance with GO 131-D, including the preparation and filing of Notice of Constructions (NOC). As necessary, consults with Law Department regarding GO 131-D compliance.

5. Research and Analysis: Research and analyze PG&E and public records to assess land rights, land uses, and constraints, regulatory jurisdictions, and local, state, and federal permit requirements. Develop strategies to mitigate public concerns regarding the construction, operation, and maintenance of PG&E facilities. Provide assistance to Real Estate Strategy relative to local approvals required for the sale and purchase of PG&E properties.

6. FERC Compliance: Ensure compliance with FERC License conditions in all matters related to recreation, land rights and land management. This includes unauthorized uses within the FERC boundary or Hydro fee lands, boat dock management, leases and licenses, new developments, negotiations with property owners and governmental agencies. Provide recreation operation and maintenance management for improvements within the FERC boundary through contract management and coordination with Hydro. Ensure all public facilities are safe for the general public and comply with the FERC license and the recreation contract. Provide support over watershed lands for the protection of significant and sensitive cultural and natural resources. Represent the company at public meetings regarding company policies.

7. Relicensing: Represent the company in negotiations with governmental agencies and NGO’s on FERC relicensing and Recreation Settlement Agreements. Develop and coordinate the design and construction of new or upgraded facilities as defined in the Recreation Plan. Review and comment on draft EIS on land and recreation issues. Responsible for coordinating preparation of FERC Exhibit G maps. Prepare cost estimates on land and recreation issues as proposed in the new license. Monitor work of consultants. Prepare study plans and Exhibit E, Exhibit R Recreation Resource and Land Management Reports and mitigation or enhancement plans (e.g., Transportation and Circulation Plans, Water Surface Management Plans, Shoreline Management Plans, etc.)

8. Land Rights: Investigate and provide guidance and technical direction and legal liaison to LSO staff on land issues. Ensure adherence to company policy regarding development and uses within the FERC boundaries. Represent the company at public meetings regarding company policies. Ensure adherence to company policies regarding development and uses within the FERC boundaries.

9. Miscellaneous: Consults with Technical Services clients such as, but not limited to, General Construction, CGT, Transmission Engineering, ISTS, Transmission Planning, Hydro Generation, and Law Department to determine the appropriate level of Technical Services involvement. May be required to monitor the work of contractors performing any of the job duties listed above. May perform the duties of lower classifications.
Minimum Job Qualifications:

EDUCATION: BA/BS with emphasis in Land Use/Environmental Planning, Land Surveying, Business, Recreation Management or related resource field, or the equivalent in education and/or experience. If qualifying education is not in Land/Environmental Planning the candidate shall have successfully completed the core courses for the Land Use and Environmental Planning certificate program or equivalent in content and hours of continuing education courses or seminars; or possess a certificate in Land/Environmental Planning; or have an AICP certification; or PLS License.

TRAINING:

LICENSES / CERTIFICATIONS: California PLS license, certificate from a Land Use/Environmental Planning program, or AICP certification (desired).

PRIOR EXPERIENCE: Minimum thirty months experience in Land Planning, Environmental Analysis, Resource Management or equivalent.

KNOWLEDGE/ABILITIES: Strong written and oral communication skills; strong team-building and facilitation skills; strong organization skills; goal oriented, ability to manage concurrent responsibilities. Applied knowledge of CEQA/NEPA and the CESA/ESA, FERC and other resource laws.

Application

1) Progression to the classification of Senior Land Planner will occur when the employee:
   a) has met the above requirements of the higher classification, and
   b) has completed six months at the top wage rate or has completed at least 30 months in the previous classification on a regular basis.
   c) has demonstrated satisfactory performance in their current position.

PRINCIPAL LAND PLANNER (50074116)

Position Summary:
Assumes the lead role in performing feasibility studies, routing, siting, and completing the land component of regulatory filings required for new or relocation of existing gas and electric transmission facilities. Under the direction of management, may assume the lead role in FERC relicensing projects and the implementation of new FERC licenses for Hydro facilities. Assumes lead role in developing and monitoring land-related project budgets and schedules, acquisition of complicated or sensitive discretionary permits and clearances from regulatory agencies, and presents projects to the public via information programs or public hearings. Provides guidance and technical direction to other members of the work group and other Technical Services organizations. Provides expert analysis of federal and state legislation and local development plans and policies for impacts on PG&E operations. Provides expert witness testimony before various local, state, and federal courts or public hearings regarding sensitive and critical project and/or land-related issues.

Essential Job Functions:
1. Routing/Siting and Feasibility Studies: Lead role in the routing and siting for new/relocated PG&E gas and electric transmission facilities and fee properties. Assumes lead role in the development of alternatives for siting and locating electric and gas transmission facilities utilizing environmental and regulatory planning documentation and consultation with local planning agencies. Perform necessary studies to incorporate engineering requirements, environmental constraints, public concerns, and existing and proposed land uses into an alternative site analysis. Develop alternative site costs and schedules and evaluate site risks including anticipated regulatory approval processes and timelines.
2. Regulatory Filings: Assemble and lead environmental, land engineering, and acquisition teams responsible for completing land component of California Public Utilities Commission (CPUC) and California Environmental Quality Act (CEQA) filings for electric and gas transmission construction projects. Negotiate project scope of work with the project sponsor or project manager. Prepare contract specifications or Request for Proposals (RFP) to contract environmental studies, investigations, and preparation of the Proponents Environmental Assessment (PEA). Monitor the work of the Consultant. Coordinate the preparation of the PEA with the regulatory attorney and prepare filing on behalf of PG&E for submission to the CPUC. Conduct public meetings and participate as a witness in public hearings at the CPUC. Meet with local, state, and federal government representatives to communicate project justification. Negotiate conditions and clearances in support of the PEA and filing with the CPUC. Responsible for cost and schedule of the land project team.

3. Permit Acquisition: Acquire complex discretionary permits and clearances required for the construction, operation, and maintenance of PG&E's gas and electric transmission facilities. Coordinate cultural and ES studies for permit acquisition and work with ES to develop protection and mitigation measures. Negotiate permit conditions with agencies to ensure that the most cost and time effective solutions are attained for PG&E projects. Includes developing and implementing public information programs appropriate for each agency application. Secure permissions from landowners and/or coordinate with R/W Agents for the acquisition of new land rights. Coordinate survey and document preparation with Land Engineering. During construction and after project completion, ensure permit conditions have been met. Coordinate and monitor the work of contractors acquiring permits.

4. Research and Analysis: Research and analyze PG&E and public records to assess land uses and constraints, regulatory jurisdictions, and local, state, and federal permit requirements. Develop strategies to mitigate public concerns regarding the construction, operation, and maintenance of PG&E facilities. Provide assistance to Real Estate Strategy relative to local approvals required for the sale of PG&E properties.

5. FERC Relicensing and Compliance: Under the direction of management, may serve as the lead Planner for FERC relicensing efforts. Represents the company in complex negotiations with agencies and NGO's. Provides guidance and technical direction to lower classifications regarding FERC relicensing, and compliance with existing FERC License conditions related to recreation, land rights and land management. Provides support for the protection of significant and sensitive cultural and natural resources on the watershed lands. Represents the company at public meetings.

May develop and coordinate the design and construction of new or upgraded recreation facilities as defined in the FERC license Recreation Plan. Review and comment on draft EIS on land and recreation issues. Prepare cost estimates for the land and recreation components required in new FERC licenses.

6. Expert Witness Testimony: Represent PG&E before major customers, industry groups, local, state, and federal agencies. Provides expert witness testimony before regulatory agencies California Superior Court, and Federal Court regarding sensitive and critical project and/or land-related issues.

7. Miscellaneous: Consults with Technical Services clients such as, but not limited to, General Construction, CGT, Transmission Engineering, Transmission Planning, ISTS, Hydro Generation, and Law Department to determine the appropriate level of Technical Services involvement. May be required to provide expert guidance and technical direction and legal liaison to local Land Service Offices. May perform the duties of lower classifications.
Minimum Job Qualifications:

EDUCATION: BA/BS with emphasis in Land Use/Environmental Planning, Business, or related resource field, or the equivalent in education and/or experience.

TRAINING

LICENSES / CERTIFICATIONS: California PLS license, certificate from a Land Use/Environmental Planning program, or AICP certification.

PRIOR EXPERIENCE: Minimum five years’ experience in Land Planning, Environmental Analysis, Resource Management or equivalent.

KNOWLEDGE/ABILITIES: Expert knowledge of federal and state regulatory processes, local planning & development process, CEQA/NEPA and CESA/ESA, and other resource laws.
**Summary**
The Land Planning Analyst position supports programs of environmental compliance and project permitting where environmental guidelines are established between PG&E and various state and federal agencies. The primary role is one of project screening, environmental permitting support and documentation. Project screening utilizes PG&E computerized information management systems (MapGuide GIS, HCP Portals, SAP) and other standard office communication formats (e-mail, teleconferencing). Program/Project screening and documentation may include daily data entries and assessment of standard permitting requirements. Program data will support development of programmatic reports and audits. Project screening determines project permitting requirements. Communicating with other Land team members and LOB project teams verbally and in writing is another key requirement of this job.

**Job Duties:**

1. **Safety**
   - Performs all work in accordance with PG&E safety goals and practices:
     - Completes all required safety training
     - Promotes safety awareness

2. **Project Screening and Documentation/Research & Review**
   - Reviews new projects received through the various portals and SAP.
   - Forwards projects that may require additional field review to the appropriate environmental technical specialist
   - Uses the appropriate SAP portal (HCP, E-Screen) to record project-specific information
   - Responsible for maintaining the project databases and updating them frequently
   - Research through GIS, PG&E records, public records, etc. to determine ownerships, land rights, land uses, constraints, regulatory jurisdictions, local, state, and federal regulatory requirements on gas and electric projects.

3. **Support to Audits and Other Business Processes**
   - Provides project data to appropriate project managers for use in development of scheduled reports and/or audits
   - May communicate with project managers to identify dependencies and schedules for completion of pre-activity surveys, planning and permitting
   - May assist in tracking and documenting project related costs

4. **Technical Quality Assurance**
   - Annually ensures that complete and technically accurate information is provided in the project database for each project completed
   - Continuously updates project information

5. **Cost/ Schedule Management**
   - May be asked to keep summary cost data for contracted work
   - Uses the SAP portal to document environmental compliance requirements for project leads.

**Interaction**
Interacts with other technical and administrative members of the Land team as well as staff from other lines of business.
**LAND PLANNING ANALYST (50329445)**

**Job Qualifications:**

| Education | BS/BA degree or its equivalent in relevant experience. |
| Licenses / Certifications | Valid driver’s license required. |
| Experience | Familiarity with utility activities desired; experience with standard office computer applications including Excel, Word and SAP required. |

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**PROJECT ENGINEERING**

**Job Titles**

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<thead>
<tr>
<th>Civil</th>
<th>Substation</th>
<th>Transmission Line</th>
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<tbody>
<tr>
<td>Licensed</td>
<td>Unlicensed</td>
<td>Licensed</td>
</tr>
<tr>
<td>Associate</td>
<td>Unlicensed: Associate Electrical Engineer</td>
<td>Associate Substation Engineer</td>
</tr>
<tr>
<td>Journey</td>
<td>Civil Engineer</td>
<td>Electrical Engineer</td>
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<td>Senior</td>
<td>Senior Civil Engineer</td>
<td>Senior Electrical Engineer</td>
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<tr>
<td>Senior Consulting</td>
<td>Senior Consulting Civil Engineer</td>
<td>Senior Consulting Electrical Engineer</td>
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**ASSOCIATE LEVEL ENGINEER**

**Summary**

This is an entry-level Engineer job that works under the general technical direction of more experienced engineers. This job is responsible for providing technical engineering support for routine projects, including, but not limited to: providing technical data; applying engineering principles to investigate, analyze, and propose solutions to technical issues; assisting project managers, construction personnel, and other business partners to assess project needs, develop and document project scope, develop cost estimates, identify material procurement needs, oversee or conduct engineering design review, review engineering documents, and provide guidance to design group. The responsibility level of this position increases with experience.
**Job Duties:**
Initial assignments from the tasks below will require direction and supervision; with experience the independence and responsibility will expand and the need for supervision will decrease.
- Assists with or conducts project walkdowns and works with project team, including both internal and external clients, to establish scope of work, schedule, and cost commitments. Gathers technical information from field data and project team.
- Prepares cost estimates.
- Investigates resources required to complete engineering and project-related tasks.
- Establishes engineering schedule.
- Prepares project forecast for engineering, tracks progress, updates as needed, and provides periodic updates.
- Provides guidance to design and contractor team members, and reviews design and technical documents. Coordinating with other lines of business, ensures designs and technical documents meet appropriate criteria, quality, and job scope.
- Approves revisions to existing drawings for routine projects.
- Procures long-lead time material for assigned projects.
- Under direction, reviews and approves project material procurement list, vendor drawings, equipment specification updates, and engineering material requests.
- Participates in periodic design review meetings.
- Coordinates project activities with other disciplines for routine projects.
- Under direction, provides construction support and evaluates and makes recommendations to resolve field construction problems.

<table>
<thead>
<tr>
<th>Scope</th>
<th>Resolves problems of limited scope. Assignments typically require standard solutions. Assignments are regularly reviewed.</th>
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</thead>
<tbody>
<tr>
<td>Interaction</td>
<td>External contacts typically require coordinating with contractors and providing information to third parties. Internal contacts are with clients and project team members and typically includes discussing and reporting progress, exchanging and coordinating information, managing meetings and providing scope documents.</td>
</tr>
</tbody>
</table>

**Job Qualifications:**

| Education | A 4-year BS Degree in Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US. |
| Licenses / Certifications | Current and active California PE license desired. |
| Experience | 1-2 years’ experience in engineering desired. |
| Knowledge / Abilities | Able to apply basic engineering principles and theory. Prioritizes, plans, and recommends solutions for routine projects. Effectively communicates both written and orally. Approaches and plans work in an organized manner to meet project commitments. Demonstrates good judgment when making decisions and recommendations. Frequently shows initiative and takes action proactively. |

**Summary**
This is a journey-level engineer job that requires mastery of the Associate level engineer skills and duties and is responsible for leading the engineering and design of more complex projects. Uses independent judgment in applying...
engineering principles, working with minimal supervision. Works with engineers, project managers, construction personnel, and other business partners in assessing project needs. Responsibilities beyond those of associate Project engineer include, but are not limited to, the following: Develop technical studies and reports, and provide guidance to contractors and outside vendors.

**Job Duties:**
May perform functions of Associate level Engineer and in addition:
- Provides technical expertise and performs engineering analyses, studies, and develops conceptual designs.
- Presents findings to internal organizations, contractors and outside vendors.
- Conducts walkthroughs and design review meetings.
- Prepares written technical documents such as design criteria, specifications, and reports.
- Develops, evaluates, and recommends alternative project proposals.
- Solicits, prepares, and evaluates contracts and proposals from engineering consultants. Reviews consultant contracts for technical compliance.
- Interprets and applies applicable codes and regulations.
- Participates in the development of effective restoration plans. Assists in root cause analysis.
- Approves reports, new drawings, and revisions to existing drawings for projects.
- In emergencies, promptly responds to facility failures.
- Represents PG&E to government bodies as required for assigned projects.

**Scope**
Resolves problems of moderate scope. Assignments typically require standard solutions. Under general direction, independently plans work to meet assigned objectives; progress is reviewed periodically for technical accuracy and adequacy in process and upon completion.

**Interaction**
External contacts are primarily coordinating with contractors and vendors. Internal contacts are with clients and project team members. May guide the work of less experienced team members. Exchanges information with others outside the team. May partner to solve problems or explore alternative solutions.

**Job Qualifications:**

<table>
<thead>
<tr>
<th><strong>Education</strong></th>
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<tbody>
<tr>
<td>A 4-year BS Degree in Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US.</td>
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<table>
<thead>
<tr>
<th><strong>Licenses / Certifications</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Current and active California PE license required for Civil Engineers and desired for other disciplines.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Experience</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mastery of the Associate level Engineer job duties or equivalent and demonstrated knowledge and ability to perform the basic duties of the Journey Level Engineer. Meets specific technical requirements gained through a minimum of three years of cumulative experience in engineering and design.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Knowledge / Abilities</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrates knowledge and abilities required for the Associate level engineer and also:</td>
</tr>
<tr>
<td>Capable of coordinating with project team, and has basic understanding of the roles and responsibilities of project managers.</td>
</tr>
<tr>
<td>Able to work with limited supervision and guidance to meet project commitments.</td>
</tr>
<tr>
<td>Able to work with internal and external customers and suppliers.</td>
</tr>
<tr>
<td>Able to understand and implement the technical requirements of interfacing engineering disciplines.</td>
</tr>
<tr>
<td>Demonstrates informed judgment when making decisions and recommendations.</td>
</tr>
<tr>
<td>Uses judgment in applying engineering principles and techniques to determine cost effective and practical solutions.</td>
</tr>
</tbody>
</table>
### Ability to manage and complete several projects concurrently, depending on scope and complexity.
Interprets applicable codes, industry standards and regulations and educates others.
Can provide thorough analysis of issues and justification of recommendations.
Takes ownership of problems and their solutions.

---

### SENIOR LEVEL ENGINEER

**Summary**
This is a senior-level engineer job that requires mastery of the journey engineer job duties and is responsible for leading engineering and design of complex projects. Applies extensive knowledge of concepts, principles, and practices to resolve complex problems with only general direction. Provides leadership, coaching, technical direction, knowledge transfer and assistance to technical employees and teams. Additional responsibilities beyond the Project engineer include, but are not limited to, the following: Deliver presentations, lead team meetings, interpret industry practices and codes.

**Job Duties:**
May perform functions of Associate and Journey level Engineers and in addition:
- Manage large complex projects and perform engineering analyses, studies, and develop conceptual designs.
- Lead, coach, direct, and assist technical employees and teams on technical issues. May act as an engineering mentor.
- Assist in finalizing contract project specification and technical evaluation of contract project bids.
- Provide support to other departments in land, permitting, and legal issues.

**Scope**
Resolves problems of complex scope. Assignments may provide an opportunity for creative or non-standard approaches. Under general direction, independently plans work to meet assigned general objectives. Work may be reviewed upon completion; solution may provide an opportunity for creative/non-standard approaches.

**Interaction**
External contacts are with contractors, vendors and local public agencies with ministerial authority. Internal contacts are with clients, project team members, and company management. May provide technical direction to less experienced team members. Exchanges information and solves problems with others outside the team.

---

**Job Qualifications:**

**Education**
A 4-year BS Degree in Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US.

**Licenses / Certifications**
Current and active California PE license required for Civil Engineers and desired for other disciplines.

**Experience**
Mastery of the Associate and Journey level Engineer job duties and demonstrated knowledge and ability to perform the basic duties of the Senior level Engineer. Meets specific technical requirements gained through a minimum of eight years of cumulative experience in engineering and design.

**Knowledge / Abilities**
Demonstrate knowledge and abilities required for the Associate and Journey level Engineer and also:
Demonstrate ability to handle multiple large scale, large budget complex projects without supervision.
Demonstrate good presentation skills including knowledge transfer presentations.
Ability to serve as the leader for an engineering team including outside contractors.
Complete assignments of broad scope and complexity.  
Ability to integrate information from a variety of sources.

| **Summary** | This is a senior consulting-level engineer job that requires mastery of the senior engineer duties and a current PE license. The Senior Consulting Engineer leads complex engineering projects, is a recognized expert within their area of responsibility, and applies extensive knowledge of concepts, principles, and practices to resolve complex problems with only general direction. Provides technical leadership and coaching. Researches and identifies practical solutions to highly complex problems. Identifies opportunities and brings in ideas to help improve company performance. Additional responsibilities beyond the senior Project Engineer include, but are not limited to, the following: develops programs in a multifunctional business process, and provides high-level advice and expertise to various PG&E lines of business. |
| **Job Duties:** | May perform the functions of Associate, Journey and Senior level Engineer and in addition:  
- Manage large highly complex projects and perform engineering analyses, studies, and develop conceptual designs.  
- Develop innovative solutions to solve challenging technical issues.  
- Acts as a lead in root cause analysis and makes recommendations to address local and system-wide problems.  
- Acts as a company witness, liaison, and/or information provider to outside parties.  
- Develops technical policies, procedures, and contributes to the development of standards, specifications, construction documents, and guidelines.  
- Represents PG&E at external industry associations, committees, trade organizations and other inter-utility groups.  
- Acts as an engineering mentor. |
| **Scope** | Resolves problems of very complex scope. Serves as a key technical resource within area of specialization. Regularly expected to apply creativity or new approaches to assignments that may be unique. May lead others on technically complex projects. Customarily and regularly uses discretion and independent judgment in fulfilling these job functions. |
| **Interaction** | Externally, establishes and maintains good relations with counterparts and higher level representatives in third party organizations, e.g., governmental, regulatory, business partner or community entities, using skilled negotiation, tact and diplomacy. Internal contacts include project team members, company management across various departments. Serves as the most senior level technical expert on the team. Often is a technical coach for others. |
| **Job Qualifications:** |  
**Education**  
A 4-year BS Degree in Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US.  
**Licenses / Certifications**  
Current California PE license required.  
**Experience**  
mastery of the Associate, Journey, and Senior level engineer job duties and demonstrated knowledge and ability to perform the basic duties of the Senior Consulting Level Engineer. Meets specific technical requirements gained through a minimum of thirteen years of cumulative experience in engineering and design.  
**Knowledge / Abilities**  
Demonstrates knowledge and abilities required for the Associate, Journey and Senior level Engineer and also:  
Able to handle multiple large and complex projects without supervision and...
serve as team leader.
Provide leadership, direction, and assistance to engineers and designers.
Coach and develop engineers.
Successfully negotiate cost effective solutions beneficial to our customers and PG&E.
Complete complex assignments with few or no precedents or standards.
Apply extensive knowledge of concepts, principles and practices in a specific field or area of expertise to resolve complex problems.

<table>
<thead>
<tr>
<th>PROJECT ARCHITECT (51874306)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Summary</strong></td>
</tr>
<tr>
<td>This is a professional classification that is responsible for providing design and technical architectural oversight and/or review of PG&amp;E building design and interior architectural work for buildings and facilities currently managed by Corporate Real Estate. This classification may also be responsible for initial planning, programming and feasibility/conceptual studies of building design and interior architectural work, including site master planning and due diligence during the project initiating phases, if available and with expertise on the particular project type.</td>
</tr>
<tr>
<td><strong>Job Duties:</strong></td>
</tr>
<tr>
<td>• Conduct programming with internal clients under the direction of project managers to assess project needs for scope of architectural work.</td>
</tr>
<tr>
<td>• Prepare conceptual and preliminary schematic designs of building interiors during the project feasibility study and schematic design phases, if available and with expertise on the particular project type.</td>
</tr>
<tr>
<td>• Advise Program and/or Project Managers and internal stakeholders regarding building, permitting, and code issues.</td>
</tr>
<tr>
<td>• Gather technical information from archives and/or field data, where available. Assist with identifying potential field conditions that could impact the project's design.</td>
</tr>
<tr>
<td>• Assist Project Manager in identifying external consultants needed for the project (i.e., architectural, engineering, LEED, commissioning agent, etc.) and internal resources (i.e., IT, environmental, corporate security, etc.), as needed.</td>
</tr>
<tr>
<td>• Assist Program Managers and/or Project Managers in evaluating architectural and engineering qualifications, in preparing Requests for Proposals (RFP's) for procuring architectural and engineering services, and in review of architectural and engineering service proposals.</td>
</tr>
<tr>
<td>• Provide external design consultants with guidance regarding company procedures and standards. Implement PG&amp;E established workplace standards, policies and guidelines on offices, furniture, materials, finishes, etc., and ensure that design consultants adhere to these standards.</td>
</tr>
<tr>
<td>• Work with external consultants (architectural, engineering, LEED, commissioning agent, etc.) in an oversight capacity from design phase through project close-out, as needed.</td>
</tr>
<tr>
<td>• Review and comment on design development drawings, construction documents and specifications prepared by selected architectural and</td>
</tr>
<tr>
<td>Engineering firms. Review drawings for interdisciplinary coordination and comment, as appropriate. Facilitate coordination between internal and external technical disciplines, as needed.</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>• Assist in the review of design consultants' work progress and billings, as directed by the Project Manager.</td>
</tr>
<tr>
<td>• Will not be required to sign and stamp drawings.</td>
</tr>
<tr>
<td>• Provide leadership, coaching, technical direction, knowledge transfer and provide guidance and assistance to technical employees and teams. May act as an architectural mentor.</td>
</tr>
<tr>
<td>• Assist Program and/or Project Manager in initial project walk-downs and bid walks, as requested.</td>
</tr>
<tr>
<td>• Attend project meetings, provide field observations, review and evaluate Requests for Information (RFI) and consultant responses to RFIs, as needed.</td>
</tr>
<tr>
<td>• Investigate, analyze and propose solutions to technical issues, as needed.</td>
</tr>
<tr>
<td>• Gather and review as-built documentation at project close-out, and forward these to the Engineering Records Unit (ERU) for scanning and archiving into PG&amp;E’s electronic document management system (EDMS) and/or the FM Archibus database.</td>
</tr>
</tbody>
</table>

| Scope | Resolves problems of complex scope. Assignments may provide an opportunity for creative or non-standard approaches. Under general direction, independently plans work to meet assigned general objectives. Work may be reviewed upon completion; solution may provide an opportunity for creative/non-standard approaches. |

| Interaction | Internal contacts are with clients, project team members, and company management. External contacts are with consultants, contractors, vendors and local public agencies with ministerial authority. May provide technical direction to less experienced team members. Exchanges information and solves problems with others within and outside the team. Job assignments will come from the Supervisor. |

<table>
<thead>
<tr>
<th>Job Qualifications:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>A 4 or 5-year Bachelor's Degree in Architecture, from an accredited curriculum in the US, or the equivalent from outside the US.</td>
</tr>
<tr>
<td>Licenses / Certifications</td>
<td>Current and active California Driver's license, Class C, required. Current and active California Architect license required. LEED accreditation desired.</td>
</tr>
<tr>
<td>Experience</td>
<td>Demonstrated knowledge and ability to perform the duties of the Project Architect. Meets specific technical requirements gained through a minimum of three years of cumulative experience in architectural design.</td>
</tr>
<tr>
<td>Knowledge /</td>
<td>Applies architectural principles and theory with limited supervision and</td>
</tr>
</tbody>
</table>
### Abilities

- guidance to meet project commitments.
- Interprets applicable codes, industry standards and regulations, and educates others.
- Pursues continuing educational opportunities to stay abreast of trends and changes in the architectural profession.
- Oversees multiple design projects, from small to large scale, without supervision.
- Demonstrates informed judgment when making decisions and recommendations.
- Provides thorough analysis of issues and justification of recommendations.
- Demonstrates good presentation skills, including knowledge transfer presentations.
- Coordinates with project teams, internal clients and vendors.
- Provides leadership, direction, and assistance to external architects and engineers.
- Understands the roles and responsibilities of Program/Project Managers.
- Integrates information from a variety of sources.
- Approaches and plans work in an organized manner to meet project commitments.
- Shows initiative and takes action proactively.
- Good communication skills, both written and oral.
- Proficiency in current versions of Microstation and/or AutoCad software.
- Proficiency in current versions of Microsoft Word, Excel, PowerPoint and Project

### PROTECTION ENGINEERING

#### ASSOCIATE PROTECTION ENGINEER (51874279)

<table>
<thead>
<tr>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>This is an entry-level Engineer job that works under the general technical direction of more experienced engineers. This position trains in all job duties in its respective discipline and requires a high level of training, direction and review of work. This job is responsible for providing technical protection engineering for routine projects and maintenance/operation support including but not limited to: issuing protection requirements, relay and automatics settings, processing clearances, and investigating relay operations.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Transmission</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emphasis is placed on mastering power system modeling, databases, Distribution transformer protection, and non-pilot transmission line coordination.</td>
<td>Emphasis is placed on mastering the protection of distribution lines, distribution transformer banks served from distribution voltages, event analysis, power system modeling, database updating, and protection coordination.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Job Duties:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial assignments from the tasks below will require direction and supervision; with experience the independence and responsibility will expand and the need for supervision will decrease.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Transmission</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide protection engineering support for projects and studies. The engineer may perform the following job duties for transmission voltages 230 kV and below: • Issue protection requirements and prepare description of</td>
<td>Provide protection engineering support for projects and studies. The engineer may perform the following job duties for distribution voltages: • Issue protection requirements and prepare description of operations for</td>
</tr>
</tbody>
</table>
## ASSOCIATE PROTECTION ENGINEER (51874279)

<table>
<thead>
<tr>
<th>Operations for non-standard and localized SPS schemes</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Conduct short circuit studies, calculate short circuit line impedance</td>
</tr>
<tr>
<td>• Determine and issue relay and automatics settings</td>
</tr>
<tr>
<td>• Support relay system installations, such as review test program, end-to-end test, load check, direction check, relay release, etc.</td>
</tr>
<tr>
<td>• Conduct area coordination studies</td>
</tr>
<tr>
<td>• Participate in project walkdown and project meetings</td>
</tr>
<tr>
<td>• Provide construction drawing reviews</td>
</tr>
<tr>
<td>• Update and maintain records, such as Aspen relay data base, transformer data sheet, short circuit base case, hard copy files, automatics data base, job files, port assignment sheets, breaker files, etc.</td>
</tr>
<tr>
<td>• Review and approve new tools and training prior to rollout</td>
</tr>
<tr>
<td>• Design and set localized SPS schemes based on Operation Engineering requirements</td>
</tr>
<tr>
<td>• Identify existing protection deficiencies</td>
</tr>
</tbody>
</table>

The engineer at this level is also assigned to provide normal and emergency maintenance and operation support. The engineer may perform, but not limited to, the following tasks:

- Provide fault location
- Investigate questionable relay operations, perform remote event retrieval and implement corrective actions
- Process clearance request and provide specific protection setup
- Assist technicians, operators for routine maintenance and operation work

### Specific Duties for Transmission Group:
- Provide project and routine

---

### Specific Duties for Distribution Group:
- Provide distribution planning engineers M&O support
- Provide and participate in distribution protection training and audit
- Provide distributed generation interconnection review support
### ASSOCIATE PROTECTION ENGINEER (51874279)

<table>
<thead>
<tr>
<th>M&amp;O support to Hydro generation</th>
<th>Manage digital fault recorders and perform event retrieval</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Conduct FERC generation interconnection studies and third party load interconnections</td>
</tr>
</tbody>
</table>

#### Scope
Resolves problems of limited scope. Assignments typically require standard solutions. Assignments are regularly reviewed.

#### Interaction
Will work with internal engineering, operations, substation construction and maintenance organizations to implement various aspects of the above job requirements. External contacts are occasional and limited to simple issues.

#### Knowledge / Abilities
- Able to apply basic engineering principles and theory
- Basic understanding of symmetrical component theory and ability to perform fault calculations
- Basic knowledge of logic gate theory and control circuitry
- Effectively communicates both written and orally
- Approaches and plans work in an organized manner to meet project commitments
- Able to read and understand Operating, Single line, SLM&R, and Schematic diagrams
- Ability to quickly learn protection concepts and their application

#### Job Qualifications:

<table>
<thead>
<tr>
<th>Education</th>
<th>A 4-year BS Degree in Electrical Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Licenses / Certifications</td>
<td>Current and active California EIT Certificate desired.</td>
</tr>
<tr>
<td>Experience</td>
<td>1-2 years’ experience in engineering desired.</td>
</tr>
</tbody>
</table>

### JOURNEY PROTECTION ENGINEER (51874280)

#### Summary
This is a journey-level protection engineer job that requires executing routine protection duties with minimal assistance. This position requires a moderate level of training, direction and review of work from more senior engineers and peers. This job is responsible for providing technical protection engineering for routine projects and maintenance/operation support including, but not limited to: issuing protection requirements, relay and automatics settings, processing clearances, and investigating relay operations.

#### Transmission
Emphasis is placed on mastering the protection of generators, transmission lines, transmission transformer bank and event analysis.

#### Distribution
Emphasis is placed on mastering the protection of generators, generator step up transformers, distribution lines, tie cables, network feeders, distribution transformer banks served from distribution voltages,
### Job Duties:

May perform all the functions of Associate Protection Engineer and in addition:

- Provide guidance to peers and lower level engineers

<table>
<thead>
<tr>
<th>Transmission</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perform protection job duties</td>
<td>Perform protection job duties for distribution voltages</td>
</tr>
<tr>
<td>for transmission voltages 230 kV and below</td>
<td>Handle special and complex projects, such as localized special protection scheme and MPAC</td>
</tr>
<tr>
<td>Handle special and complex projects, such as localized special protection scheme and MPAC</td>
<td>Handle special and complex projects, such as localized special protection scheme, fast distribution bus pickup scheme, tie cable, Switchgear IPAC, etc.</td>
</tr>
</tbody>
</table>

### Scope

Resolves problems of moderate scope and complexity. Assignments typically require standard solutions. Under general direction, independently plans work to meet assigned objectives; progress is reviewed periodically for technical accuracy and adequacy in process and upon completion.

### Interaction

To implement various aspects of the above job requirements, will work with internal engineering, operations, substation construction and maintenance organizations with various levels of personnel to obtain cooperation, persuade, exchange and/or provide information. May attend meetings representing the group to meet job duties. External contacts limited primarily to obtaining and providing information to vendors, manufacturers and consultants on moderately routine issues.

### Knowledge / Abilities

- Ability to calculate relay settings for all station automatics schemes, transmission line relaying, transformer bank protection, bus protection, generator protection, and breaker failure schemes
- Thorough computer application and fault analysis program knowledge
- Knowledge of symmetrical component theory and ability to perform fault calculations.
- Basic understanding of logic gate theory and control circuitry
- Knowledge of protection equipment, instrumentation and test procedures
- Ability to analyze relay operations and determine fault locations
- Able to work with moderate supervision and guidance to meet project commitments, both independently and/or as a member of a team
- Able to understand and implement the technical requirements of interfacing engineering disciplines
- Demonstrates informed judgment when making decisions and recommendations
- Uses independent judgment in applying engineering principles and techniques to determine cost effective and practical solutions
- Ability to manage and complete numerous non-conflicting projects concurrently
- Interprets applicable codes, industry standards and regulations and educates others
- Can provide thorough analysis of issues and justification of recommendations
## Journey Protection Engineer (51874280)

<table>
<thead>
<tr>
<th>Job Qualifications:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Takes ownership of problems and their solutions</td>
</tr>
</tbody>
</table>

### Education
A 4-year BS Degree in Electrical Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US.

### Licenses / Certifications
Current and active California PE license desired

### Experience
Mastery of the associate protection engineer job duties in respective discipline and demonstrated knowledge and ability to perform the basic duties of the Journey Protection Engineer. Meets specific technical requirements gained through a minimum of three years of cumulative experience in the field of system protection.

## Senior Protection Engineer (51874281)

### Summary
This is a senior-level engineer job that requires mastery of the journey engineer job duties and is responsible for complex system protection duties. This position requires a low level of training, direction and review of work from more senior engineers and peers. This job is responsible for providing technical protection engineering for routine and complex projects and maintenance/operation support including, but not limited to: issuing protection requirements, relay and automatics settings, processing clearances, and investigating relay operations.

<table>
<thead>
<tr>
<th>Transmission</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emphasis is placed on mastering negotiating and coordinating protection of third party interconnections and becoming current with industry standards and practices through professional conferences and seminars.</td>
<td>Emphasis is placed on mastering two major equipment layouts, one in outdoor switchyard, and the other in compact switchgear layout.</td>
</tr>
</tbody>
</table>

### Job Duties:
May perform all the functions of Associate and Journey Protection Engineer, and in addition:

- Perform protection work on large and complex projects
- Coach, direct, and assist technical employees and teams. May act as team leader
- Performs root cause analysis and makes recommendations to address local and system-wide implications under emergencies
- Mentor lower level protection engineers

<table>
<thead>
<tr>
<th>Transmission</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perform protection job duties for transmission voltages 230 kV and below</td>
<td>Perform protection job duties for distribution voltages</td>
</tr>
<tr>
<td>Review and comment on new design standards, tools and relay schemes</td>
<td>Identify and resolve standards deficiencies and recommend standards upgrades</td>
</tr>
</tbody>
</table>
### SENIOR PROTECTION ENGINEER (51874281)

#### Scope
Resolves problems of complex scope. Assignments may provide an opportunity for creative or non-standard approaches. Under general direction, independently plans work to meet assigned general objectives. Work may be reviewed upon completion; solution may provide an opportunity for creative/non-standard approaches.

#### Interaction
To implement various aspects of the above job requirements, will work with all levels of personnel to obtain cooperation, persuade, exchange and/or provide information. Lead and/or attend meetings representing the group to perform job duties. External contacts limited primarily to obtaining, exchanging and providing information to vendors, manufacturers, other utilities, and consultants on non-routine issues. May participate in professional affiliations (i.e. PSRC, IEEE) to keep abreast of new industry trends, developments and procedures. May represent the company on committees.

#### Knowledge / Abilities
- Ability to calculate relay settings for all station automatics schemes, transmission line relaying, transformer bank protection, bus protection, generator protection, and breaker failure schemes
- Thorough computer application and fault analysis program knowledge
- Knowledge of symmetrical component theory and ability to perform fault calculations
- Understanding of logic gate theory and control circuitry
- Knowledge of protection equipment, instrumentation and test procedures
- Ability to analyze relay operations and determine fault locations
- Able to work with moderate supervision and guidance to meet project commitments, both independently and/or as a member of a team
- Able to understand and implement the technical requirements of interfacing engineering disciplines
- Demonstrates informed judgment when making decisions and recommendations
- Uses independent judgment in applying engineering principles and techniques to determine cost effective and practical solutions
- Ability to manage and complete numerous non-conflicting projects concurrently
- Interprets applicable codes, industry standards and regulations and educates others
- Can provide thorough analysis of issues and justification of recommendations
- Takes ownership of problems and their solutions

#### Job Qualifications:

##### Education
A 4-year BS Degree in Electrical Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US.

##### Licenses / Certifications
Current and active California PE license desired

##### Experience
Mastery of the associate and journey protection engineer job duties in respective discipline and demonstrated knowledge and ability to perform the basic duties of the Senior Protection Engineer. Meets specific technical requirements gained through a minimum of eight years of cumulative experience in the field of system protection.
This is a senior consulting level protection engineer position that requires mastery of the Senior Engineer job duties and a current PE license. This job is responsible for providing excellent technical protection engineering for routine and complex projects and maintenance/operation support including, but not limited to issuing protection requirements, relay and automatics settings, processing clearances, and investigating relay operations. The engineer at this level leads complex protection projects, is a recognized expert within system protection, and applies extensive system protection knowledge to resolve complex problems with only general direction. Researches and identifies practical solutions to highly complex problems. Provides technical leadership and coaching.

<table>
<thead>
<tr>
<th>Transmission</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emphasis is placed on developing and maintaining expertise in all job duties, and performs all job duties with little to no required supervision and keeps current with industry standards and practices through professional conferences and seminars.</td>
<td>Emphasis is placed on developing and maintaining expertise in all job duties, and performs all job duties with little to no required supervision and keeps current with industry standards and practices through professional conferences and seminars.</td>
</tr>
</tbody>
</table>

**Job Duties:**

May perform all the functions of Associate, Journey and Senior Protection Engineer, and in addition:

- Manage large highly complex projects and perform engineering analyses, studies, and develop conceptual designs
- Develop innovative solutions to solve challenging technical issues
- In emergencies, acts as a lead in root cause analyses and makes recommendations to address local and system-wide implications
- Represent PG&E at external industry associations, committees, trade organizations and other inter-utility groups

<table>
<thead>
<tr>
<th>Transmission</th>
<th>Distribution</th>
</tr>
</thead>
</table>
| Perform protection job duties for transmission voltages 230 kV and below | Perform protection job duties for distribution voltages
- Develop technical policies, procedures, and contributes to the development of standards, specifications, construction documents, and guidelines |

**Scope:**

Resolves problems of complex scope. Serves as a key technical resource within system protection. Regularly expected to apply creativity or new approaches to assignments that may be unique. Will receive technical guidance from Principal engineers. May lead others on technically complex projects. Under general direction of supervisor, plans work to meet general objectives. Work may be reviewed upon completion; solution often provides an opportunity for creative/non-standard approaches.

**Interaction:**

Internal contacts include project team members, managers and directors across various departments. Serves as the most senior technical expert on the team. External contacts limited primarily to obtaining, exchanging and providing information to vendors, manufacturers, other utilities, and consultants on non-routine issues. Participates in professional affiliations (i.e. PSRC, IEEE) to keep abreast of new industry trends, developments and procedures. May represent the company on committees. Often is a technical coach for others.
| **Knowledge / Abilities**          | Demonstrate expert knowledge and abilities in system protection arena.  
|                                    | Able to handle multiple large and complex projects without little or no supervision and serve as team leader.  
|                                    | Demonstrate excellent presentation skills including knowledge transfer presentations. Provide leadership, direction, and assistance to engineers.  
|                                    | Coach and develop other lower level engineers routinely.  
|                                    | Able to prepare and present system protection related technical papers in the appropriate trade groups, such as IEEE, WPRC, etc. |

| **Job Qualifications:**            |                                                                 |
| **Education**                     | A 4-year BS Degree in Electrical Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US. |
| **Licenses / Certifications**     | Current and active California PE license required |
| **Experience**                    | Mastery of the associate, journey and senior protection engineer job duties in respective discipline and demonstrated knowledge and ability to perform the basic duties of the Senior Protection Engineer. Meets specific technical requirements gained through a minimum of thirteen years of cumulative experience in the field of system protection. |
# PROJECT MANAGERS AND PROJECT CONTROLS ANALYSTS

## ASSOCIATE PROJECT MANAGER (51874290)

<table>
<thead>
<tr>
<th><strong>Summary</strong></th>
<th>This project management position is the first in a progression and is responsible for managing the scope, schedule, and cost of low to medium complexity electric and gas transmission and distribution projects. In this role, there are no direct reports; rather people and other resources are managed indirectly as part of a project team with limited supervision and guidance. External contacts are typically limited to overseeing contractors and providing information to third parties. Project duration is typically less than 1 year and projects do not require CPUC or Agency permits. The level of responsibility of this position increases with experience. Associate Project Managers may be assigned to work on up to three Journey or Sr. Project Manager Projects as defined on the attached table of Project Types by Career Stage. The Associate Project Manager will not have primary responsibility for these assigned projects, but rather work under the guidance and direction of a Project Manager of a higher classification for developmental purposes.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Job Duties</strong></td>
<td>- Develops and defines project scope and objectives. - Establishes and leads project team with agreed-upon roles and responsibilities. - Obtain commitment on detailed work plans including schedule, cost, resource, contingency and communication plans. - Obtains management approval as needed and is responsible for project tracking and analysis of project costs, scope and schedule. - Ensures project documentation is maintained. - Develops, monitors and updates the project cash flow and financial forecasts. - Manages dates, operations, tasks and scheduling in current software system (e.g. WM, EPM Microsoft Project Server). - Ensures all specialized materials are ordered in a timely manner. - Manages the integration of vendor tasks and tracks and reviews vendor deliverables. - Communicates project status on a regular basis to all stakeholders. - Assesses project risk and formulates mitigative contingency plans. - Implements quality standards, reviews project deliverables and communicates variances accordingly. - Identify and communicate lessons learned and incorporate prior lessons learned as best practices into projects. - Adjusts project scope, with project sponsor approval, and schedule as appropriate to accommodate change - Identifies project performance issues, analyzes and addresses them in a timely manner. - Effectively completes multiple projects concurrently. - Represents and promotes the project and its contribution to company goals.</td>
</tr>
<tr>
<td><strong>Knowledge / Abilities</strong></td>
<td>- Ability to work with both internal and external customers/clients. - Ability to handle many projects simultaneously and prioritize work effectively. - Problem resolution and decision making ability – shows initiative and good judgment in resolving issues.</td>
</tr>
</tbody>
</table>
- Ability to lead group meetings effectively, influence others and build agreement.
- Strong communications and analytical skills.
- Good facilitation and presentation skills.
- Business computer skills, such as Microsoft Office Suite Programs (Emphasis on Excel, Word, and MS Project)
- Ability to forecast and manage costs and schedules based on project assignments.

### Qualifications
A bachelor’s degree from an accredited college or its equivalent in education and experience. Plus 1 year experience in project management, project controls, engineering and/or construction if PG&E/2 years if outside hire.

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### JOURNEY PROJECT MANAGER (51874291)

#### Summary
This is a career or journey level project management position that requires mastery of the Associate level Project Manager skills and duties and is responsible for all aspects of the development and implementation of assigned projects. This position has overall project management responsibility and provides a single point of contact for those projects. Uses independent judgment in applying Project Management fundamentals, working with minimal supervision. Interacts with senior internal and external contacts. External contacts include overseeing contractors and providing information to or exchanging information with third parties (e.g. Government, regulatory, or community groups).

#### Job Duties
Is able to perform the job duties of an Associate Project Manager. Additional job duties include:

- Provides technical and analytical guidance to project team.
- Recommends and takes action to direct the analysis and resolution of problems.
- Oversees and administrates low risk EPC contracts per project type table in accordance with ESC Work Oversight Committee.
- Represents PG&E to government agencies as required for assigned projects.
- Provides guidance to Associate Project Managers who are assigned Journey Level Projects for developmental purposes in accordance with the Associate Project Manager Job Description.

#### Knowledge / Abilities
- Knowledge and experience with electric substations, gas and electric distribution and transmission projects.
- Uses independent judgment in selecting and applying Project Management methods and techniques to determine cost-effective and practical solutions.
- Fluent in the use of Project Management tools and current company tools, such as SAP Financials and Work Management modules and Microsoft Project Scheduling Software.

#### Qualifications
A bachelor’s degree from an accredited college or its equivalent in education and experience. Plus 3 years’ experience in project management, project controls, engineering, and/or construction if PG&E/4 years if outside hire. Project Management Professional (PMP) Certification desired.
**SENIOR PROJECT MANAGER (51874292)**

| **Summary** | This job is the fully qualified, career-oriented, Senior Project Manager position that requires mastery of the journey level Project Manager job duties. Under general direction, exercises judgment and discretion and is responsible for all aspects of the development and implementation of assigned projects and provides a single point of contact for those projects. Project duration is generally multi-year, requires significant risk management, and may include formal partnering agreements with outside firms. Assignments will have high visibility, require extensive project management skills and often require specific discipline and areas of expertise. |
| **Job Duties** | Is able to perform the job duties of a journey level Project Manager. Additional job duties include:  
- Determines that project objectives are achievable.  
- Provides guidance to engineering on producing complex risk and alternative analyses, studies and conceptual designs for presentation to project sponsor.  
- Oversees and administrates EPC contracts in accordance with ESC Work Oversight Committee.  
- Negotiates third party contracts, in support of other departments when appropriate.  
- Develops and champions company-wide best practices.  
- Makes presentations to PG&E Officers as appropriate.  
- Arbitrates and resolves conflicts within the project.  
- Mentors and provides guidance to less experienced project managers. |
| **Knowledge / Abilities** |  
- Knowledge of land acquisition, CPUC and environmental permitting and EPC contracting procedures.  
- Superior ability to interface with and across supporting organizations and conduct formal presentations to officers. |
| **Qualifications** | A bachelor’s degree from an accredited college or its equivalent in education and experience. Plus 8 years’ experience in project management, project controls, engineering and/or construction if PG&E/9 years if outside hire. Project Management Professional (PMP) certification and maintenance required for new entrants. |

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**SENIOR CONSULTING PROJECT MANAGER (51874295)**

| **Summary** | This position provides expert-level project management and leadership of diverse teams for Project Management's largest projects. These projects impact Business Unit financial performance, success, and strategic objectives. Projects typically are multi-year, exceed $10 million, require significant risk management, are highly complex, and may include formal Partnering agreements with other firms. Under general direction, responsible for all aspects of the development and implementation of assigned projects and provides a single point of contact for those projects. |
| **Job Functions** | Is able to perform the job duties of a Senior Project Manager. Additional job duties include:  
**PROJECT MANAGEMENT**  
- Establishes unit cost and monitors progress/accomplishment  
- Identifies and implements non-traditional processes to implement the
project that reduce cost and/or schedule.

**COMMUNICATION/TEAMWORK**
- Communicates regularly with PG&E Officers, managers, critical project partners and high-level public sector contacts.

**LEADERSHIP**
- Mentors and provides guidance to less tenured project managers.

<table>
<thead>
<tr>
<th>Knowledge / Abilities</th>
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<tbody>
<tr>
<td>Proven advanced project management skills.</td>
<td></td>
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<tr>
<td>Able to develop complex schedules with multiple dependencies.</td>
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<tr>
<td>Understanding of integrated cost and schedule management.</td>
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<tr>
<td>Strategic and business acumen skills.</td>
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<tr>
<td>Superior ability to interface with and across supporting organizations and conduct formal presentations to officers.</td>
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<tr>
<td>Ability to mentor other PMs.</td>
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</tr>
</tbody>
</table>

**Qualifications**
A bachelor’s degree from an accredited college or its equivalent in education and experience. Plus 13 years’ experience in project management, project controls, engineering and/or construction if PG&E/14 years if outside hire. Project Management Professional (PMP) certification and maintenance required.

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**JOURNEY PROJECT CONTROLS ANALYST (50208709)**

**Summary**
A journey level Analyst position that provides support to Associate to Journey Project Manager level distribution and/or transmission projects (per Project Types table) with minimal guidance of the Project Manager/PCA Supervisor. If assigned, may perform functions in the Project Support Function; the Central Data Management Function; and/or the Central Financial Analysis Functions

**Job Functions**

<table>
<thead>
<tr>
<th>Project Support Functions</th>
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</table>

**Schedule Development and Analysis:**
- In coordination with Project Manager develop project schedule and cash flow/forecast plans with functional department input.
- Attend Project and Job kickoff and walk down meetings.
- Create, maintain and update schedules.
- Document, monitor and communicate project milestones and risks with appropriate stakeholders.
- Participate in project status meetings, collect progress data and revise project plan as needed.
- Monitor financial progress and maintain Project Manager’s order group.
- Develop, maintain and control project schedule plans using appropriate software (for ex: SAP Project System, SAP Work Management System, and MS Project).

**Cost Plan Development and Analysis:**
- Use the cost and schedule plan to determine if project objectives are achievable.
- Create, maintain, and update monthly forecast budgets.
- Prepare various cost reports and maintain forecast accuracy. Prepare project performance analysis, cost, and schedule status reports. Identify
- Assess and report on project performance using established industry standards.
- Ensure that responses to project budget, and GRC or FERC cost requests reflect accurate and current project cost information and stakeholders are in concurrence.
- Provide regular communication on project cost, schedule and risk status to project team members, stakeholders and public.
- Interface with design and planning resources and software systems.
- Review and assist in the preparation of Advance Authorizations, Job Estimates and Re-Authorizations and assist PM in routing for approval.
- Prepare journal entries and coordinate or process goods receipts in current software system.
- Ensure that responses to budget and cost requests reflect correct project cost information and stakeholders are in concurrence.
- Input data into various programs and prepare various cost and forecasting reports.

**Project Documentation & Reporting:**
- Verify that project cost and schedule milestones were/were not attained and provide input to identify future process or business improvements and work with responsible parties to implement.
- Manage orders from inception through completion and all required documentation is entered in current software system (Ex: EDMS).
- Resolve all open items, ensure compliance requirements are met and settlement rules are entered, and close out order.
- Maintain scope change, contingency release, change order, and journal entry logs.
- Maintain written and electronic project documentation and records for required aspects of the project: Maintain project files in accordance with established guidelines and requirements (Ex: utilizing the electronic document management system or EDMS).
- Document change order requests, project status, key issues, risks and resolution, priority changes and approvals.
- Provide Project Manager with monthly report of project costs and/or schedule information including variance analysis according to an agreed upon level of detail and prioritization.
- Assist PM with Post Job Critique.

**Central Data Management Functions**

**Data Management**
- Maintain Construction Management Databases for tracking Operational Metrics.

**Quality and Analysis**
- Prepare various monthly and weekly project management reports and report performance reports to management group including scorecards.
- Ensure quality of reports for the department, to report out to stakeholders.
- Validate weekly and monthly data sets.
• May provide support to project manager(s) as necessary

System Support
• Provide technical support for the job status system (e.g. CMP), for the Department.

Special Projects
• Fulfill ad-hoc requests for cost-related data and analysis
• Participate on (or lead) various process improvement initiatives, within Project Services.

Central Financial Analysis Functions

Project Budget & Cycle Forecast Monitoring/Reporting:
• Prepare various monthly and weekly project performance reports - budget and cycle forecast reports; and finance status reports, utilizing the financial tracking software (e.g. SAP/BW system and PMD).
• Coordinate and work with all stakeholders, on creating new reports, that best measure and support good business decisions, to meet the Year End Annual Budget target.
• Coordinate and summarize project cycle forecast variance explanations, for the department, to report out to stakeholders.
• Ensure that all responses to budget, quarterly cycle requests reflect accurate and current project cost information and stakeholders are in concurrence.
• Post and update all the project performance; budget and cycle forecast; and status reports on the Project Management website.

Financial and Performance Management:
• Monitor, analyze and report out on the Department’s Forecasting Performance, with weekly performance reports, utilizing the financial tracking tools (e.g. SAP/BW).
• Analyze financial results on a monthly basis, providing explanations of significant cost drivers to PM Leadership – reports such as the Green-Red Scorecard and Lessons Learned Reports.

Knowledge / Abilities

DESIRED:
• Experience with appropriate software tools, currently SAP Work Management, Controlling Orders, Planning Orders, and BW
• Project Management, Project Controls, or Construction Management experience
• Risk Management and Earned Value Analysis experience
• Accounting/budgeting knowledge
• Mathematical skills
• Forecasting skills

Qualifications
A bachelor’s degree from an accredited college or its equivalent in education and experience. Must include minimum 1 year experience in an electric or gas transmission and/or distribution business operations area, business planning, accounting, finance, construction management and/or project management. Two years’ experience if hired externally. Certified Associate in Project Management (CAPM) Project Management Professional (PMP) Certification desired.
### Summary
A senior level analyst position able to work and to provide analytical support on any distribution and transmission projects. The Senior Analyst will have excellent computer skills and knowledge of the various tools and software of Project Services. If assigned, may perform different functions in the Central Data Management or Financial units.

### Job Functions
May perform all the functions of the Journey Project Controls Analyst and in addition:

#### Project Support Functions

**Schedule Development and Analysis:**
- Attend, actively participate and at times assist in leading the project and job kick-off and walk down meetings
- Lead the project team to develop project plans
- Educate and ensure team members understand and utilize appropriate project accounting. Conduct project status meeting, collect progress data and revise project plan, as needed.
- Use the schedule plan as the basis for developing, maintaining and controlling the cost plan. Manage project forecast by collecting, coordinating, monitoring and tracking project forecasts from project players, vendors and contractors to ensure that expenditures are within the agreed-upon costs.
- Provide cost variance explanations to program managers or planners when necessary
- Work in collaboration with the Project Manager and project team to develop, maintain and control project schedules.
- Analyze schedule start, completion, and duration variances utilizing the baseline schedule as the approved plan. Identify schedule variance and provide Project Manager with recommendations for corrective actions.
- Perform Earned Value analysis for assigned projects with regard to project schedule.

**Cost Plan Development and Analysis:**
- Analyze and trend cost variances by comparing the current cost plan against the actual cost to date.
- Forecast costs to completion up to approved or authorized cost budget amount.
- Identify cost variances and investigate suspicious charges and provide recommendations for corrective action. Analyze and validate actual charges to project orders and notify responsible individual(s) of cost issues; take corrective actions as necessary.
- Manage controlling orders which may include order creation, order status changes, entry of asset settlement rules, etc. and ensure team members understand and utilize appropriate project accounting.
- Ensure that responses to budget and cost requests reflect correct project cost information and stakeholders are in concurrence.
- Create Work Management System Notifications as needed to identify future work and resources.
- Perform Earned Value analysis for assigned projects with regard to project costs.

**Project Documentation & Reporting:**
- May provide special reports for supervisor or manager upon request.
<table>
<thead>
<tr>
<th>Central Data Management Functions</th>
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<tbody>
<tr>
<td><strong>Data Management</strong></td>
</tr>
<tr>
<td>• Maintain Project Management and Construction Management databases for tracking Operational Metrics.</td>
</tr>
<tr>
<td>• Work with the Project Management Leadership Team to automate data gathering and reporting.</td>
</tr>
<tr>
<td>• Act as the point of contact for Project Management group for any Project Management software (e.g. PMD or CMP) updates or modifications to order groups.</td>
</tr>
<tr>
<td>• Work with the appropriate departments to resolve issues and implement solutions.</td>
</tr>
<tr>
<td><strong>Quality and Analysis</strong></td>
</tr>
<tr>
<td>• Provides direction and advice to Project Managers on Project Work Breakdown Structure set-up; Target and Performance reporting; and Project Scheduling.</td>
</tr>
<tr>
<td>• Create and maintain Electric Transmission work, in the “SAP Project System” module.</td>
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<tr>
<td><strong>System Support</strong></td>
</tr>
<tr>
<td>• Provide technical support for the PMD system, for the Department.</td>
</tr>
<tr>
<td>• Provide computer installation advice to the Department.</td>
</tr>
<tr>
<td>• Act as the Project Management User Rep, for all new project management software developments and enhancements, that impact Project Management work.</td>
</tr>
<tr>
<td><strong>Special Projects</strong></td>
</tr>
<tr>
<td>• Coordinate, lead, and participate in meetings, and/or task force teams, in regards to accounting issues, system, or process changes, that impacts Project Management.</td>
</tr>
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<table>
<thead>
<tr>
<th>Central Financial Analysis Functions</th>
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<tbody>
<tr>
<td><strong>Project Budget &amp; Cycle Forecast Planning:</strong></td>
</tr>
<tr>
<td>• Work with Business Planning in preparing the Annual Budget Plan, for all three Project Management Departments – Electric and Gas Transmission, and Distribution.</td>
</tr>
<tr>
<td>• Document, monitor, and communicate the Budget plan with appropriate stakeholders.</td>
</tr>
<tr>
<td>• Attend all department-related planning meetings, and revise project plan, as needed.</td>
</tr>
<tr>
<td>• Oversee the Budget planning with appropriate software tools (currently in BW, ensuring the PRJ planning version data is properly rolled up to RES.</td>
</tr>
<tr>
<td>• Work with Management Reporting to ensure the PCC rates are accurate and are copied correctly into all planning versions in financial tracking software (SAP/BW).</td>
</tr>
<tr>
<td>• Act as the point of contact, for Project Management, for financial software (BW) and for Budget forecast planning issues. Work with the appropriate departments to resolve issues and implement solutions.</td>
</tr>
<tr>
<td><strong>Project Budget &amp; Cycle Forecast Monitoring/Reporting:</strong></td>
</tr>
<tr>
<td>• Set up and maintain SAP Order Groups, and also is responsible to work with Controllers on any process or maintenance changes on the Order Groups</td>
</tr>
</tbody>
</table>
**Financial and Performance Management:**
- Monitor, analyze and report out on the Department’s Forecasting Performance, with weekly performance reports, utilizing the SAP/BW system and Project Management reporting systems.
- Analyze financial results on a monthly basis, providing explanations of significant cost drivers to PM Leadership – reports such as the Green-Red Scorecard and Lessons Learned Reports.
- Create new and maintain existing BW reports, for use with upper Management, and for Project Manager/Analysts, to review forecast performance.

**Accounting Support:**
- Single point of contact for all Capital Accounting data requests (Various)
- Coordinate the department responses, for Monthly capital accounting data requests such as Plant in Service Report for projects that are operative
- Prepare accurate and timing responses to all internal and external accounting/financial data requests, related to T&D project work, including GRC/TO filings to the CPUC.
- Reviews Project Services work for compliance with accounting standards (e.g. Capital Accounting Standard, GAAP, FASB, FERC and CPUC requirements).
- Researches and resolves accounting and financial issues, impacting Project Services work.
- Acts as the Subject Matter Expert on Asset Settlements and the asset management software (e.g. Power Plant).
- Reviews for accuracy Job Estimates forwarded to the Central Team.

**System Support:**
- Act as the User Rep in developing, testing, and troubleshooting technical issues with the financial tracking system (SAP/BW) for the Department.
- Create new and maintain existing BW reports, for use with upper Management, and for Project Manager/Analysts, to review forecast performance
- Serves as the Department Hot Line, for resolving technical bugs and systems errors. This involves working with programmers in ISTS; developing and testing solutions; or creating new financial tracking (BW) reports; and communicating resolutions.
- Develop and provide training on financial tracking software (SAP/BW) to the Department.
- Act as the Project Management User Rep, for all new project management and financial software (SAP) developments and enhancements, that impact Project Management work.

**Qualifications**
A bachelor’s degree from an accredited college or its equivalent in education and experience, plus 5 years as a Project Controls Analyst; or 7 years PG&E experience in an electric or gas transmission and/or, distribution business operations area, business planning, accounting, finance, construction management and/or project management; or 8 years of related experience if hired externally. Certified Associate in Project Management (CAPM) or Project Management Professional (PMP) Certification required.
# EXPERT PROJECT CONTROLS ANALYST (51731345)

## Summary
The Expert Project Controls Analyst job requires mastery of the Scheduling or Earned Value discipline and skills. This position is responsible for providing technical standards, strategy and implementation support for the Earned Value and Scheduling systems and functions, and handles complex problems and issues. The Expert Project Controls Analyst is a recognized expert within their area of project cost analysis, identifies opportunities and brings in ideas to help improve company performance and applies extensive knowledge of concepts, principles, and practices to resolve complex problems with only minimal guidance.

## Job Duties:
Is able to perform the job duties of a Senior level Project Controls Analyst. As assigned, additional job duties include:
1. Support the development of Earning Rules / and Baseline Schedule Templates
2. Assist in tracking and reporting work stream portfolio trend analysis
3. Identify, provide recommendations and lead improvements or corrective action to program
4. Train and mentor less experienced PCA’s, provide guidance and assistance
5. Help develop and implement earned value and portfolio schedule strategies
6. Manage complex 2,000 - 10,000 line item schedule
7. Understand and keep track of granularity of PG&E and third party contractor schedules. Create and maintain complex integrated schedules including import of contractor schedules, functional schedules and schedule data from codependent projects. Ensure horizontal and vertical integration of master schedules.
   - Create contractor scheduling specifications for bid packages to facilitate contractor schedule integration into Master Integrated Schedules including definition of key milestones, activity naming and calendar conventions, contractor baseline requires, and contractor schedule of payments based on weekly and/or monthly
   - Review contractor schedule submissions and PG&E generated schedules for accuracy, unapproved baseline changes, legitimacy of delay and scope change claims
8. Use tools to manage Schedule Change (Claim Digger or equivalent). Identify and evaluate changes made to different versions of the same schedule. Compare schedules, perform impact analysis and document delays to the schedule.
9. Works across multiple cross functional work streams to generate comprehensive solutions
10. Interact with Managers and or Directors to influence, design and implement processes
11. Create detailed plans with limited information including WBS structure and core logic
12. May maintain, utilize and mentor other PCA’s regarding ANSI/EIA-748-Compliant Earned Value Management systems and procedures for project management organizations

## Scope
Resolves problems of complex scope. Assignments may require complex solutions. Works independently with limited feedback from supervisor. Expected to apply creative solutions, techniques and approaches to work assignments. Customarily and regularly uses discretion and independent judgment in fulfilling these job functions.

## Interaction
Assists lower classification Project Controls Analysts and works with the supervisor. Interacts with Managers and or Directors to influence, design and implement
processes. Internal contacts include project team members and company management across various departments. Has specialized technical expertise and provides information and training as appropriate in the assigned specialized area.

**Knowledge / Abilities**

Demonstrates knowledge and abilities required for the Journey and Senior level Project Controls Analyst and also:
- Able to handle multiple large and complex projects without supervision and serve as team leader.
- Provide leadership, direction, and assistance to project team.
- Successfully negotiate cost effective solutions beneficial to our customers and PG&E.
- Complete complex assignments with few or no precedents or standards.
- Apply extensive knowledge of concepts, principles and practices in a specific field or area of expertise to resolve complex problems.
- Demonstrates strong technical and communications skills.

**Job Qualifications:**

**Education**

A 4-year BA or BS Degree from an accredited curriculum in the US or the equivalent from outside the US.

**Licenses / Certifications**

Project Management Professional (PMP) certification and maintenance.
Current Earned Value Professional (EVP) or Project Scheduler Professional (PSP) Certification by AACEI, depending on specific position being filled: PSP for Expert PCA in Scheduling, EVP for Expert PCA in Earned Value.
Must pass PG&E-ESC developed competency assessment.

**Experience**

Mastery of the Journey, and Senior level Project Controls Analyst job duties and demonstrated knowledge and ability to perform the duties of the Expert Level PCA.
Meets specific technical requirements gained through a minimum of 7 years as a Project Controls Analyst (including Sr. PCA) or 12 years of PG&E relevant experience or 14 related industry experience.

**PROJECT TYPES BY CAREER STAGE**

*Energy Delivery Project Services - Gas and Electric Transmission and Distribution*

**Associate PM**

- Electric Distribution substation equipment replacements (e.g. switches, circuit breakers and circuit switchers).
- Electric Distribution substation distribution bank replacements
- Electric Distribution electric overhead relocation and reconductoring.
- Generator Interconnection relay work

- Electric transmission wood, fiberglass and light duty steel pole replacements and relocations
- Electric Transmission circuit breaker and switch replacements
- Electric Transmission 230 kV and below relay replacements
- Electric Transmission and Distribution MRTU installations and upgrades
- Electric Transmission and Distribution security installations and upgrades

- Distribution gas relocation.
- GPRP and copper services
- Gas meter protection
- Gas compressor station in-kind equipment replacements.
- Gas storage station in-kind equipment replacements.
- Gas metering and regulation station (greater than 60 psi) in-kind equipment replacements.
- Gas transmission pipeline (greater than 60 psi) projects (to include small routine projects such as pipe repairs; replacements; hydro-tests; recoating, and casing contacts).

**NOTE:** The above gas project types:
1. Do not require development of engineering alternatives, new engineering designs, equipment specifications or work procedures; however, alternative analyses are expected in the job authorization process.
2. Employ commonly used standard designs and specifications.
3. Are straightforward and implementation can be replicated from similar successful projects.
4. Require limited interactions and input from Station or Pipeline Engineering and Maintenance/Operations or similar line work groups.

**Journey PM**

- SCADA installations.
- Distribution underground cable replacement and relocation.
- Rule 20A with one joint trench participant.
- Distribution reliability work.
- New distribution electric capacity circuits.
- New distribution gas capacity pipelines.
- Electric Transmission 230 kV and below integrated (IPAC) relay replacements
- Electric Transmission and Distribution emergency like for like transformer replacements
- Electric transmission steel relocations.
- Gas distribution regulator installations.
- Gas compressor station equipment replacement projects.
- Gas storage station equipment replacement projects.
- Gas metering and regulation station (greater than 60 psi) equipment replacement projects.
- Gas transmission pipeline (greater than 60 psi) projects (such as replacement in-kind reliability; upgraded operating pressure [reclassification]; new installation [relocation, capacity, Work Required by Others (WRO), and New Business [new or upgraded services for power plants and major commercial/industrial customers]).

**NOTE:** The above gas project types:
1. Require development of engineering alternatives and business analysis, and include project specific engineering designs, equipment specifications or work procedures.
2. Employ a combination of standard and non-standard engineered designs and specifications
3. Require close interactions with Station or Pipeline Engineering, Maintenance/Operations, Marketing and similar work groups
4. Entail land acquisition or environmental permitting issues requiring interaction with Land and Environmental Services Departments, land owners, and regulatory agencies.
5. Require the PM to provide Project Sponsors and others with recurring status updates and tailboard like presentations.

**Senior PM**

- Rule 20A with multiple joint trench participants.
- Generator interconnections transmission line work.
- Electric transmission line reconductoring
- Special Protection Scheme automation work.
- Electric Transmission 500 kV relay replacements
- Electric transmission bank/substation work.
- New electric transmission line.
- Greenfield transmission and substation work.
- MPAC projects.
- Static VAR Compensation (SVC) Systems.
Gas compressor station major equipment and system overhauls, replacements, upgrades or new construction projects (such as gas compressors, compressor engines and motors, gas coolers, station/unit controls, electric substations, emergency power systems and environmental equipment retrofits).

Gas storage station major equipment and system replacements, upgrades or new construction projects (such as gas dehydration equipment, gas odorizer, main gas piping, valves, meter runs, station/process controls, emergency power systems and environmental equipment retrofits).

Gas metering and regulation station (greater than 60 psi) major equipment and system replacements, upgrades or new construction projects (such installation of main gas metering, regulation and SCADA equipment).

Gas transmission pipeline (greater than 60 psi) projects (such as large diameter, long distance or built-up pipeline reliability replacements, WRO, relocations, capacity installations, and integrity (pigging) projects. On a project by project basis, these projects entail pipelines serving large geographic core gas customer areas, or large commercial/industrial customers or wholesale gas shippers.

NOTE: The above gas project types:
1. Require development of engineering alternatives and business analysis, and include project specific engineering designs, equipment specifications or work procedures. Non-standard engineered designs and specifications are used. One-off or special techniques, technologies and/or skills may be required to engineer, design, procure and construct the project.
2. Require close interactions with Station or Pipeline Engineering, Maintenance/Operations and Marketing work groups.
3. May entail land acquisition or environmental permitting issues requiring interaction with Land and Environmental Services Departments, land owners, regulatory agencies, as well as other IOUS and CPUC representatives.
4. Routinely require the PM to provide Project Sponsors, upper management and others both within and outside the Company, with recurring status updates and presentations.

Senior Consulting PM

- Any electric transmission, distribution or substation project requiring CPCN.
- Transmission interconnection or reconstruction project involving other utility companies where PG&E is the lead utility or the interconnecting utilities are equal partners.
- Major gas pipeline projects (e.g. 57C) requiring CEQA permitting (i.e., full EIR required, not just negative declaration).
- Gas Transmission new/rebuild compressor stations.
- Program Management work for Gas and Electric Transmission and Distribution, i.e. a grouping of projects having a common purpose to be implemented over multiple years. The Sr. Consulting Project Manager is expected to both manage individual projects and provide programmatic guidance to other Project Managers to implement the program in an efficient, organized and repeatable manner.
## ELECTRIC STANDARDS & STRATEGY ENGINEERS

<table>
<thead>
<tr>
<th><strong>ASSOCIATE ELECTRIC STDS &amp; STRATEGY ENGINEER (51874283)</strong></th>
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<tbody>
<tr>
<td><strong>Summary</strong> The Associate level engineer job works under the general technical direction of more experienced engineers or management. This position is responsible for providing strategy, engineering, operations, maintenance, and other technical, and implementation support for the transmission, substation, and distribution systems, including transmission and distribution line SCADA/Automation systems. The responsibility level of this position increases with experience.</td>
</tr>
<tr>
<td><strong>Job Duties:</strong> As assigned, for electric transmission, substation, distribution, and systems, including transmission and distribution line SCADA/Automation systems:</td>
</tr>
<tr>
<td><strong>STANDARDS</strong></td>
</tr>
<tr>
<td>1. Participate in approval of vendors and products for material, assets, labor, and equipment.</td>
</tr>
<tr>
<td>2. Provide Technical Input to the Qualified Supplier List (QSL).</td>
</tr>
<tr>
<td>3. Produce Utility Standards, work procedures, bulletins, design criteria, manuals, materials specifications, and standard design drawings related to substation, transmission, and distribution systems.</td>
</tr>
<tr>
<td>4. Review Factory Acceptance testing calculations and analyses</td>
</tr>
<tr>
<td>5. Provide support for training and change management.</td>
</tr>
<tr>
<td>6. Provide equipment ratings at the asset class level (e.g. generic breaker or transformer ratings) and assist with legacy equipment ratings as needed.</td>
</tr>
<tr>
<td><strong>ASSET STRATEGY AND IMPLEMENTATION</strong></td>
</tr>
<tr>
<td>7. Support event investigations, extent of conditions, failure analyses, and reliability studies.</td>
</tr>
<tr>
<td>8. Develop, document, and implement metrics that track system performance including safety and reliability.</td>
</tr>
<tr>
<td>9. Performs asset and system reliability reviews, trend analysis work, including recommendations for improvement and reporting.</td>
</tr>
<tr>
<td>10. Under supervision, performs asset and system reviews and develop/implement plans, including trend analysis and recommendations for improvement and reporting.</td>
</tr>
<tr>
<td>11. Perform infrastructure analysis and master the tools to do so (e.g. SAP Asset Registry, TOA (Transformer Oil Analysis), etc.).</td>
</tr>
<tr>
<td>12. Provide support on regulatory, governmental, and other third-party issues including audits, reporting, documentation, work paper preparation, data responses, and compliance requirements.</td>
</tr>
<tr>
<td>13. Perform, document, and publish equipment ratings.</td>
</tr>
<tr>
<td>14. Participate in Development and implementation of asset and reliability strategies including criteria, plans, programs, and standards development.</td>
</tr>
<tr>
<td>15. Provide financial information and support for sponsored programs.</td>
</tr>
<tr>
<td>16. Prepare project approval documents.</td>
</tr>
<tr>
<td>17. Participate in strategy and capital investment planning activities.</td>
</tr>
</tbody>
</table>
18. Participate in Development of project scope, alternatives analyses, schedule, and budget for assigned projects; and provide support and guidance to project implementation teams.  
19. Participate, as necessary, in project implementation meetings to establish project implementation scope, schedule, and costs of projects.  
20. Actively monitors the project through all stages (scope, schedule and budget).  
21. Provide facility rating and modeling information to support development of electrical models of transmission lines and substation equipment for power flow simulation upon completion of projects.  
22. Under supervision, release assets and provide support for operational (e.g. Transmission Outage Management System) or emergency activities.  
23. Under supervision, interface and work with external regulatory agencies.  

**COMMON TO ALL**  
24. Assist other engineers, team members, and management by developing, compiling, and providing technical data.  
25. Update and manage databases as required.  
26. Provide engineering and technical support commensurate with level of expertise.  
27. Raise questions and provide ideas on potential engineering and technical solutions by using existing tools, methods and approaches or by making minor modifications and improvements. Assist with other internal and external requests that may impact transmission, substation, and distribution assets.  
28. May attend IEEE or other industry conferences for training and development.  

<table>
<thead>
<tr>
<th>Scope</th>
<th>Resolves problems of limited scope and complexity. Assignments are regularly reviewed. As experience increases, greater independence of judgment is expected with respect to standard solution problems.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Interaction</strong></td>
<td>Work typically requires direction from more senior engineers and management. Works primarily with internal personnel. External contact is limited to those assigned by management. May attend selected trade and association meetings</td>
</tr>
</tbody>
</table>
| **Knowledge / Abilities** | • Able to apply basic engineering principles and theory.  
• Assess and recommend solutions for routine projects.  
• Effective written and oral communications.  
• Competency in developing and delivering multi-mode communications that convey a clear understanding of the unique needs of different audiences.  
• Prioritize, plan and perform assigned work in an organized manner.  
• Demonstrates good judgment, including ability to conduct research as needed to perform at the job level.  
• Show initiative and is proactive. |
**Job Qualifications:**

- Ability to work independently with limited oversight.
- Knowledge of engineering codes and standards as needed to perform at the job level.

**Education**

A BS Degree in Civil or Electrical Engineering or other related Engineering degree as appropriate from an accredited university. For designated positions, a BSEE or BSCE only may be required.

**Licenses / Certifications**

EIT – Engineering in Training certification desired

**Experience**

One year of experience in engineering, planning and/or operations.

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**Summary**

The Journey level engineer job requires mastery of an Associate Engineer skills and duties. This position is responsible for providing strategy, engineering, operations, maintenance, and other technical, and implementation support for the transmission, substation, distribution systems, including transmission and distribution line SCADA/Automation systems. The responsibility of this position increases with experience and demonstrated ability.

**Job Duties:**

- Is able to perform the job duties of the Associate Level engineer. As Assigned, additional job duties include, for transmission, substation, distribution, and systems including transmission and distribution line SCADA/Automation systems:

  **STANDARDS**

  1. Assist with or initiate the investigation of new technologies associated with equipment and keep abreast of changes in technology.
  2. Provide recommendation on waivers or deviations from standards and specifications
  3. Interprets and applies applicable codes and regulations

  **ASSET STRATEGY AND IMPLEMENTATION**

  4. Ensures strategic plans and programs are in place to accomplish ongoing performance improvement of overall electric systems for public and employee safety, and system reliability.
  5. Provide Emergency and operational support.
  6. Manage the Capitalized Emergency Materials (CEM) and mobile fleet.
  7. Provide leadership, direction, and assistance to project team.
  8. Support preparation of documents for external regulatory, governmental, or third-party agencies, including proceedings.
<table>
<thead>
<tr>
<th>COMMON TO ALL</th>
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<tbody>
<tr>
<td>9. Ensures cost-effective implementation of projects while optimizing capital investments.</td>
</tr>
<tr>
<td>10. Provide guidance to peers and lower level engineers.</td>
</tr>
<tr>
<td>11. Solves problems by developing and utilizing engineering design and technical solutions.</td>
</tr>
<tr>
<td>12. Communicate and collaborate with M&amp;C personnel.</td>
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<table>
<thead>
<tr>
<th>Scope</th>
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<tbody>
<tr>
<td>Resolves problems of moderate scope and complexity. Assignments typically require standard solutions. Generally, works independently with feedback from other engineers and management. Demonstrates increasing technical and communication skills. Effectively completes multiple projects concurrently.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Interaction</th>
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<tbody>
<tr>
<td>Work sometimes requires direction from more senior engineers and management. Works primarily with internal personnel. Some external contact with vendors, PG&amp;E contractors and customers. Governmental contacts only as assigned by management. May attend selected trade and association meetings</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Knowledge / Abilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrates knowledge and abilities required for the Associate level engineer and also:</td>
</tr>
<tr>
<td>• Works with limited supervision and guidance to meet project commitments.</td>
</tr>
<tr>
<td>• Understand and implement the technical requirements of interfacing engineering disciplines.</td>
</tr>
<tr>
<td>• Demonstrates informed judgment when making decisions and recommendations.</td>
</tr>
<tr>
<td>• Uses independent judgment in applying engineering principles and techniques to determine cost effective and practical solutions.</td>
</tr>
<tr>
<td>• Ability to interpret applicable codes, industry standards, and regulations.</td>
</tr>
<tr>
<td>• Provide thorough analysis of issues and justification of recommendations.</td>
</tr>
<tr>
<td>• Capable of coordinating with project team, and has basic understanding of the roles and responsibilities of project managers</td>
</tr>
<tr>
<td>• Defines project scope and adequately addresses resources when planning projects.</td>
</tr>
<tr>
<td>• Proficient oral and written communication skills.</td>
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<table>
<thead>
<tr>
<th>Job Qualifications:</th>
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<tbody>
<tr>
<td><strong>Education</strong></td>
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</table>

<table>
<thead>
<tr>
<th>Licenses / Certifications</th>
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</thead>
<tbody>
<tr>
<td>Current and active California PE license desired.</td>
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</table>

<table>
<thead>
<tr>
<th>Experience</th>
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</thead>
<tbody>
<tr>
<td>Mastery of the Associate level Engineer job duties or equivalent and demonstrated knowledge and ability to perform the basic duties of the Journey level Engineer. Meets specific technical requirements gained through a minimum of three years of cumulative experience in engineering, planning and/or operations.</td>
</tr>
</tbody>
</table>
### SENIOR ELECTRIC STDS & STRATEGY ENGINEER (51874284)

#### Summary
The Senior level engineer job requires mastery of the Journey level engineer skills and duties. This position is responsible for providing strategy, engineering, operations, maintenance, and other technical, and implementation support for the transmission, substation, distribution, and transmission and distribution line SCADA/Automation systems. This position handles complex problems and issues.

#### Job Duties:
Is able to perform the job duties of a Journey level engineer. As assigned, additional job duties include, for transmission, substation, distribution, and systems, including transmission and distribution line SCADA/Automation systems:

**STANDARDS**

1. Assist with or initiate the investigation of new technologies associated with equipment. Keep abreast of changes in technology through attending conferences and expos, working with vendors and suppliers, maintaining relationships with internal and external technical experts.
2. Where applicable, act as a liaison with Maintenance and Construction personnel by providing communication and feedback regarding construction standards, work procedures and equipment issues.
3. Develop and implement equipment control programming, SCADA communication, and SCADA Automation for distribution line equipment.
4. Provide training support for electronically controlled distribution line equipment, including new equipment deployment, failed equipment solutions and troubleshooting.
5. Develop and implement test plans and requirements for evaluation of new distribution line equipment.

**ASSET STRATEGY AND IMPLEMENTATION**

6. Lead development, implementation, and management of a complete asset life cycle and system reliability strategies, plans, and programs including asset installation, maintenance, operations, replacement, and removal.
7. Address and manage emergency issues associated with assigned assets.
8. Support, perform or lead, as assigned, root cause analysis.

**COMMON TO ALL**

9. Acts as a subject matter expert in area of field and applies extensive knowledge of concepts, principles, and practices. Develop and provide specialized training on assets within areas of expertise.
10. Provide technical expertise and lead in implementation of complex and large scale projects.
11. Provide support on regulatory, governmental and other third party issues.

#### Scope
Resolves problems of complex scope. Assignments may require complex solutions. Works independently with limited feedback from other engineers and management. Well-developed technical skills and communication skills.
### Interaction

Work sometimes requires direction from more senior engineers and management. Works with internal and external personnel. External contacts include vendors, PG&E contractors, customers and regulatory agencies. May include other governmental contacts as assigned.

### Knowledge / Abilities

Demonstrate knowledge and abilities required for the Associate and Journey level Engineer and also:

- Ability to apply theories, concepts, methods, best practices, and techniques as needed to perform at the job level
- Ability to handle multiple large scale and complex projects without supervision.
- Demonstrate good presentation skills including knowledge transfer presentations.
- Ability to serve as the leader for guiding the project team.
- Complete assignments of broad scope and complexity.
- Ability to integrate information from a variety of sources.
- Applies extensive knowledge of concepts, principles, and practices in a specific discipline, field, or area of expertise to resolve complex problems.
- Works independently with only general direction. Often serves as team leader.
- Takes ownership of problems and their solutions and provides leadership, direction, and assistance to technical employees and teams. Coaches and develops others.
- Recognizes and actively seeks value added improvements to the system.
- Recommends and assists in implementation of strategic direction.

### Job Qualifications:

#### Education

A BS Degree in Civil or Electrical Engineering or other related Engineering degree as appropriate from an accredited university. For designated positions, a BSEE or BSCE only may be required.

#### Licenses / Certifications

Current and active California PE license desired.

#### Experience

Mastery of the Associate and Journey level Engineer job duties and demonstrated knowledge and ability to perform the basic duties of the Senior level Engineer. Meets specific technical requirements gained through a minimum of eight years of cumulative experience in engineering, planning and/or operations.

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**Senior Consulting Electric STDS & Strategy Engineer (51874285)**

#### Summary

The Senior Consulting level engineer job requires mastery of the Senior level engineer skills and duties. This position is responsible for strategy, engineering, operations, maintenance, and other technical, and implementation support for the transmission, substation, distribution, DER (Distributed Energy Resources) systems, and transmission and distribution line SCADA/Automation systems. This position handles highly complex problems and issues. The Senior Consulting Engineer is a recognized expert within their area of responsibility, identifies opportunities and brings in ideas to help improve company performance and applies extensive knowledge of concepts,
principles, and practices to resolve complex problems with only general
direction.

<table>
<thead>
<tr>
<th>Job Duties:</th>
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</thead>
<tbody>
<tr>
<td>Is able to perform the job duties of a Senior level engineer. As assigned, additional job duties include, for transmission, substation, distribution and systems, including transmission and distribution line SCADA/Automation systems:</td>
</tr>
</tbody>
</table>

**COMMON TO ALL**

1. Identifies, analyzes and improves existing business processes within assigned department to meet existing/new goals and objectives.
2. Performs complex engineering analysis.
3. Conceives and investigates areas in which engineering precedents are not tested and contributes to new designs and techniques that are regarded as major advances in the company and/or industry.
4. May represent PG&E as an expert on professional society and/or industry association committees (e.g., IEEE, CIGRE, etc.).

**ASSET STRATEGY AND IMPLEMENTATION**

5. Ensures the system performance meets reliability targets.
6. Lead in implementation of projects involving inter-regional coordination.

Leads and/or acts as a company witness, liaison, or information provider to outside parties for project support or any other regulatory proceedings impacting PG&E business.

| Scope | Resolves problems of complex scope. Assignments may require complex solutions. Works independently with limited feedback from management. Provides guidance and feedback to other engineers. Expected to apply creative solutions, techniques and approaches to work assignments. Customarily and regularly uses discretion and independent judgment in fulfilling these job functions. |
| --- | 

| Interaction | Assists and provides technical guidance to lower classification engineers and works with management. Externally, establishes and maintains good relations with counterparts and higher-level representatives in third party organizations, e.g., governmental, regulatory, business partner or community entities, using skilled negotiation, tact and diplomacy. Internal contacts include project team members and company management across various departments. May have specialized technical expertise and provides information and training as appropriate in the assigned specialized area. |
| --- | 

| Knowledge / Abilities | Demonstrates knowledge and abilities required for the Associate, Journey and Senior level Engineer and also:  
- Able to handle multiple large and complex projects without supervision and serve as team leader.  
- Competency in developing people to meet both their career goals and the organization goals.  
- Successfully negotiate cost effective solutions beneficial to our customers and PG&E. |
| --- | 

|  |  |
- Complete complex assignments with few or no precedents or standards.
- Apply extensive knowledge of concepts, principles and practices in a specific field or area of expertise to resolve complex problems.
- Demonstrates strong technical and communications skills.
- Assess business conditions, identifies opportunities, and develops programs from a multifunctional, cross-process perspective.
- Is recognized as an expert in their area of responsibility.
- Develops technical policies and procedures.
- Contributes significantly to the development of standards, specifications, guidelines, and other Utility guidance documents.
- Applies broad and extensive business understanding of technical issues and impacts the strategic direction and policies of the company.
- Provides high-level advice and expertise to upper management frequently and consistently.

<table>
<thead>
<tr>
<th>Job Qualifications:</th>
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</thead>
<tbody>
<tr>
<td>Education</td>
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<tr>
<td>Licenses / Certifications</td>
</tr>
<tr>
<td>Experience</td>
</tr>
</tbody>
</table>
MAINTENANCE AND CONSTRUCTION (M&C) ENGINEERS

### ASSOCIATE M&C ENGINEER (51874303)

#### Summary
This is an entry-level M&C position that works under the general direction of more experienced M&C Engineers. This position is responsible for managing the scope, schedule and cost of low to medium complexity Steel Transmission Line or Transmission and Distribution Substation projects from inception thru completion. An Associate M&C Engineer works with limited supervision and guidance. Upon hire, he/she will be assigned a Senior M&C as a mentor for a minimum of one year, with timing dependent upon the skills developed. This position has project management responsibility for routine projects and is a main point of contact for those projects. This position is used to develop independent judgment in applying Project Management and engineering fundamentals, working with minimal supervision, and as a project team member developing, discussing and reporting progress. The level of responsibility of this position increases with experience.

#### Job Duties
- Develops and defines initial project scope and objectives.
- Establishes and leads project team with agreed-upon roles and responsibilities.
- Obtain commitment on work plans including schedule, cost, resource and contingency plans.
- Obtains management approval of PA, Project Scope and JE.
- Track and analyze project costs, scope and schedule.
- Ensures SAP is updated with accurate Settlement and Retirement information.
- Updates required Company Tools (presently Transmission Register, Distribution Register, TSM&C Database) with required information on projects assigned.
- Ensures project documentation is maintained.
- Monitors the project cash flow, and status monthly.
- Communicates project status and end-of-year financial projection on a monthly basis to stakeholders.
- Assesses project risk and formulates mitigative contingency plans.
- Implements basic quality standards, reviews project deliverables and, with Sponsor approval, adjusts scope and schedule communicating variances accordingly.
- Identifies and communicates lessons learned with Team, and incorporates prior lessons learned into projects.
- Adjusts project scope, with project sponsor approval, and schedule as appropriate to accommodate change
- Identifies project performance issues and addresses them in a timely manner.
- Effectively completes multiple projects concurrently.
- Represents and promotes the project and its contribution to company goals.
- Prepares Post Estimates for emergency jobs
- Performs Decision Quality Transmission Line Rerate analyses and costs.

#### Knowledge / Abilities
- Ability to work with both internal and external customers/clients.
- Ability to handle projects simultaneously and prioritize work effectively.
- Problem resolution and decision making ability – shows initiative and good judgment in resolving issues.
- Ability to lead group meetings effectively, influence others and build agreement.
- Strong communications and analytical skills.
- Good facilitation and presentation skills.
- Business computer skills, such as Microsoft Office Suite Programs (Emphasis on Excel, Word) and SAP WM.
- Forecasting skills

### Qualifications

<table>
<thead>
<tr>
<th><strong>Education</strong></th>
<th>A 4-year BS degree in Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Experience</strong></td>
<td>1 year experience in project management, or other electrical engineering discipline and/or construction.</td>
</tr>
<tr>
<td><strong>Certifications</strong></td>
<td>EIT Certificate or California PE License desired</td>
</tr>
</tbody>
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### JOURNEY M&C ENGINEER (51874293)

| **Summary** | This is a journey-level M&C position that requires mastery of the Associate level M&C skills and is responsible for all aspects of the development and implementation of more complex assigned projects. This position has overall project management responsibility and is the single point of contact for those projects. Uses independent judgment in applying project management and engineering fundamentals, working with minimal supervision. Interacts with various internal contacts to solve problems or explore alternative solutions. |

<table>
<thead>
<tr>
<th><strong>Job Duties</strong></th>
<th>Is able to perform the job duties of an Associate Maintenance &amp; Construction Engineer. Additional job duties include:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Provides management for more complex projects.</td>
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<tr>
<td></td>
<td>• Provides technical and analytical guidance to Associate M&amp;C’s and project team.</td>
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<tr>
<td></td>
<td>• Recommends and takes action to direct the analysis and resolution of problems.</td>
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<tr>
<td></td>
<td>• Provides thorough analysis of issues and mitigates impacts to assigned projects.</td>
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<tr>
<td></td>
<td>• Works with minimal assistance or guidance to implement assigned projects.</td>
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<tr>
<td></td>
<td>• May guide the work of Associate M&amp;C Engineers.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Knowledge / Abilities</strong></th>
<th>Knowledge and experience with Steel Transmission Line and T&amp;D substation projects.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Uses independent judgment in selecting and applying Project Management methods and techniques to determine cost-effective and practical solutions.</td>
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<tr>
<td></td>
<td>Fluent in the use of current company tools, such as EASOP and SAP Work Management.</td>
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<tr>
<td></td>
<td>Knowledgeable in PG&amp;E accounting practices, engineering and construction processes and standards.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Qualifications</strong></th>
<th>Education: A 4-year BS degree in Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US. Experience: 3 years’ experience in M&amp;C Engineering, engineering, and/or construction. Certifications: California PE License desired</th>
</tr>
</thead>
</table>
### SENIOR M&C ENGINEER (51874294)

**Summary**
This is a Senior level M&C job that requires mastery of the journey level job duties and is responsible for all aspects of the development and implementation of assigned projects and provides a single point of contact for those projects. Manages numerous projects of a highly complex nature and with high company risk from original concept through final implementation. Assignments may have high visibility, require extensive project management skills and often require specific discipline and areas of expertise. Works with only general direction and exercises judgment and independent discretion. Provides leadership, guidance and knowledge transfer to team members. May be called upon to deliver presentations and lead Team Meetings.

**Job Duties**
Is able to perform the job duties of a journey level Maintenance & Construction Engineer. Additional job duties include:
- Determine that project objectives are achievable.
- Provides guidance to engineering on producing complex risk and alternative analyses, studies and conceptual designs for presentation to project sponsor.
- Applies extensive knowledge of concepts, principles and practices in engineering, construction, capital accounting, rates and rules.
- Completes assignments of broad scope and complexity and assignments that require integration of information from a variety of sources.
- Arbitrate and resolve conflicts within the project.
- Mentors and provides guidance to less experienced M&C’s and others.

**Knowledge / Abilities**
- Knowledge of engineering, job estimate processes, Capital Accounting Instructions, and EPC contracting procedures.
- Superior ability to interface with and across supporting organizations and conduct presentations to stakeholders, team members and officers.

**Qualifications**
**Education**: A 4-year BS degree in Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US.  **Experience**: 8 years’ experience in M&C engineering, project management, engineering and/or construction.  **Certifications**: California PE License desired

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### SENIOR CONSULTING M&C ENGINEER (51874304)

**Summary**
This is a Senior-Consulting level position that requires mastery of the Senior M&C duties and a current California PE license. The Senior Consulting M&C Engineer provides expert-level project management and leadership to diverse teams for the largest projects. These projects impact Business Unit financial performance, success, and strategic objectives. Projects typically are multi-year, requiring significant risk management, and are highly complex. Provides technical leadership and coaching within the team and outside, and serves as a senior technical expert on the team. Researches and identifies practical solutions to highly complex problems. Identifies opportunities and brings forward ideas which improve company performance. Takes numerous projects of a highly complex nature and company risk from original concept through final implementation. Additional responsibilities beyond Senior M&C Engineer include, but are not limited to: developing and implementing multi-functional processes to improve performance and the accomplishment of company goals; provides high level
advice and expertise within the M&C Team and to other lines of business

<table>
<thead>
<tr>
<th>Job Functions</th>
<th>Is able to perform the job duties of a Senior, Journey or Associate M&amp;C Engineer. Additional job duties include:</th>
</tr>
</thead>
</table>
| **PROJECT MANAGEMENT** | • Establishes/develops unit costs and monitors progress/accomplishment  
  • Identifies and implements non-traditional processes to implement projects that reduce cost and/or schedule.  
  • Implements the largest and most complex projects assigned to M&C Engineering.  
  • Concurrently manages multiple (3 or more) major equipment replacement jobs, each being over $1 Million, without supervision.  
  • Coordinate large system wide Program (example: Automation/Protection EPC Bundling).  
  • Make presentation to PG&E Officers as appropriate. |
| **COMMUNICATION/TEAMWORK** | • Communicates regularly with PG&E managers, critical project partners and high-level public sector contacts. |
| **LEADERSHIP** | • Mentors and provides guidance to less tenured M&C Engineers and other team partners.  
  • *Assigned as immediate mentor to any M&C having a project greater than $1 Million.* |
| **Knowledge / Abilities** | • Proven advanced project management skills.  
  • Mastery of Associate, Journey and Senior level of M&C Engineer job duties and demonstrated knowledge and ability to perform the basic duties of Senior Consulting Level M&C Engineer.  
  • Able to develop complex schedules with multiple dependencies.  
  • Understanding of integrated cost and schedule management.  
  • Strategic and business acumen skills.  
  • Superior ability to interface with and across supporting organizations and conduct formal presentations.  
  • Ability to successfully mentor others within and outside the M&C Team. |
| **Qualifications** | **Education:** A 4-year BS degree in Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US.  
**Experience:** Plus 13 years’ experience in M&C Engineering, project management, engineering and/or construction.  
**Certifications:** Current California PE License required. Company may decide to fill the position as a Senior Advising Engineer if candidate does not possess a current California PE License. |
| Summary | This Associate Level Aquatic Biologist position is the first in a technical progression. The job performs tasks of limited scope under the guidance of more senior biologists and project managers. Task-level project work includes time spent in the field where additional knowledge of company operations, work practices, and facilities will be gained. Project participation is primarily focused at acquiring in-depth understanding of utility OM&C activities, PG&E’s environmental management goals and objectives, and business processes. This level of involvement refines and develops both technical skills and project management skills while contributing to project assignments across all lines of business.

This job provides some project management support and significant technical support in the field, on multiple routine to moderately complex projects to various Business Partners. Responsibilities may include Privileged and Confidential work.

Manages issues and projects and resolves problems of defined scope and/or supports more experienced biologists and/or project managers on more complex and large scope projects. Assignments typically require application of standard solutions, but may include an increased level of innovation on a periodic basis. Under general direction, independently plans & manages work to meet commitments and assigned objectives. Progress reviewed periodically for technical accuracy & adequacy throughout process. |

| Job Duties: | Initial assignments from the tasks below will require direction and supervision. Jobs duties will include:

1. **Safety**
   - Performs all work in accordance with PG&E safety goals and practices
     - Completes all required safety training annually
     - Promotes safety awareness
     - Conducts all work in accordance with all safety procedures

2. **Project Planning and Workload Management**
   - Ensures that workload (including in-house and contract labor, deliverables, and schedule commitments) is properly managed and tracked and targets are met.
   - Ensures the satisfactory completion of all assigned work

3. **Project Communication**
   - Ensure that consistent cost and schedule updates are provided to all project leads for each project supported
   - Ensures that business partners are aware of potential cost over/under runs and any project deliverable schedule delays are identified as early in the project planning and implementation process as possible

4. **Relationship Management**
   - Works closely with senior staff and other technical disciplines within the Department to learn appropriate permitting/licensing and mitigation strategies
   - Develop and/or review agency or public meeting presentations for projects you are assigned and ensure that the presentation is... |
<table>
<thead>
<tr>
<th>ASSOCIATE AQUATIC BIOLOGIST (50327906)</th>
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<tbody>
<tr>
<td>factually accurate and based on sound scientific principles</td>
</tr>
<tr>
<td>- Assist the PG&amp;E lead in communications and negotiations on sensitive environmental issues with various stakeholders</td>
</tr>
</tbody>
</table>

5. **Technical Project Management**
- Usually as a member of a multidisciplinary project team, help develop scope, schedule, and budget as a technical team member for the biological work you are assigned
- Work closely with senior staff to provide strategic permitting and licensing guidance to business partners and contractors
- Develop biological study plans to achieve regulatory compliance and cost effectiveness
- Work closely with senior staff to manage and provide technical oversight to contractors
- Work closely with senior staff to plan and manage implementation of studies and assessments associated with specific biological issues
- Work closely with senior staff to manage studies in support of licenses, permits and compliance
- Work closely with senior staff to provide guidance and oversight for the preparation/collection of needed data to support the development of licensing and permitting applications
- Work closely with senior staff to provide technical expertise on PG&E projects for responses to agency/NGO comments or requests for data

6. **Technical Project Performance**
- Conduct technical work, as required to meet project goals, using the highest standards of scientific investigation and analysis.
- Implement technical studies; identify/analyze project impacts; and develop/recommend protection, mitigation, and enhancement measures.
- Prepare technical reports and input for licensing and permitting documents.
- Work collaboratively with agencies and non-governmental organizations to resolve licensing and permitting issues.
- Review and comment on environmental documents as requested.

7. **Technical Quality Assurance**
- Ensures that all technical reports (contractor or self-generated) meet the technical standards required by the regulatory agency guidelines
- Provide technical quality assurance for contract work

8. **Cost/ Schedule Management**
- Manages cost commitments within the project budget
- Ensures project budgets are estimated and submitted as required by business partners.
- Provides technical and contract administration oversight for all assigned work
- Ensures that all schedule and deliverable commitments are met on or before the planned due dates

9. **Contractor Selection**
- Arranges for services provided by outside biology contractors; develop
**ASSOCIATE AQUATIC BIOLOGIST (50327906)**

| Contract Documents, initiate shopping carts in SAP, and manage and provide technical oversight to contractors |
| • Helps develop technical scope of work and requests for proposals under direction of senior staff |
| • Participates in proposal evaluations and selection of successful bidder |
| • Support the company strategic sourcing program and supplier diversity initiatives on all appropriate projects |

**Interaction**

External contacts typically involve oversight by more experienced biologists and/or project managers and include directing project-related work and contract administration with contractors; and providing information and conducting limited discussions with external stakeholders.

Internal contacts are primarily with Electric Transmission and Distribution, CGT, and Power Generation including O&M clients and project team members, and PG&E internal services organizations.

**Job Qualifications:**

<table>
<thead>
<tr>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holds a four-year BS/BA degree in Natural Resources, Water Quality, Biology, Ecology, or related sciences with direct application to current job responsibilities.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Licenses / Certifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid driver’s license required.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-3 years of relevant industry or resource agency experience (or post-graduate degree).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Knowledge / Abilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Able to apply basic biological and project management principles and theory.</td>
</tr>
</tbody>
</table>

**Technical Knowledge**

Possesses basic-level knowledge of principles related to job responsibilities in applicable technical field.

**Laws, Regulations and Standards**

Possesses basic-level knowledge of environmental laws and regulations that pertain to current job responsibilities.

**Level of Direction Required**

Works on assigned tasks with supervision of methods and progress.

**Complexity of Assignments**

Assists other professionals, projects teams and department management by developing, compiling and providing technical data.

**Level of Initiative Demonstrated**

Offers new ideas and suggestions for improvements.

**Communication Skills (written and verbal)**

Communicates effectively. Possesses sound basic verbal communication skills; writing is concise, coherent.

**Analytical Skills**
**ASSOCIATE AQUATIC BIOLOGIST (50327906)**

Some experience with analytical tools / approach to problem solving (statistical analysis, geospatial analysis, modeling, etc.)

**Planning and Project Management Skills**
Monitors their own costs to stay within budget. With guidance, exercises appropriate controls on costs.

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**JOURNEY AQUATIC BIOLOGIST (50327905)**

**Summary**
This is a Journey-level Aquatic Biologist position that works under the general direction of more senior biologists and/or project managers. The Journey-Level Aquatic Biologist is responsible for small-to-moderate size projects consistent with technical background. The Journey-Level Aquatic Biologist participates on interdisciplinary teams utilizing intermediate-level knowledge of principles related to job responsibilities, utility operations, PG&E’s environmental management goals and objectives, and business processes. The position is expected to use independent judgment; enhanced verbal and written communication skills and have the ability to work with minimal supervision. The Journey-Level Aquatic Biologist possesses an intermediate-level knowledge and understanding of local standards, ordinances, state, and federal laws that pertain to technical job responsibilities and can demonstrate successful management of multiple small to moderate sized Company projects.

In this role, people and other resources are managed indirectly as part of a project team. The Journey-Level Aquatic Biologist is responsible for the development and implementation of assigned projects, and may spend a portion of time participating in or directing technical work in the field. The position requires a working knowledge of industry practices, standards, and equipment; Responsibilities may include Privileged and Confidential work.

Assignments typically require standard solutions, but may include an increased level of innovation on a periodic basis. Under limited general direction, independently plans work to meet assigned objectives; progress is reviewed periodically for technical accuracy and adequacy in process and upon completion.

**Job Duties:**
Some direction and supervision is required. The need for supervision is expected to decrease with increased time in-grade. Job duties will include but are not limited to:

1. **Safety**
   - Performs all work in accordance with PG&E safety goals and practices
     - Completes all required safety training
     - Promotes safety awareness
     - Conducts work in accordance with all safety procedures

2. **Project Planning and Workload Management**
   - Ensures that work scope, schedule and cost are accurately defined and approved by the business partner before work proceeds on the project.
   - Actively plan, estimate and manage the biological work for specific projects
   - Provides timely input to project schedules identifying known or likely
requirements for seasonal bio-fieldwork and seasonal work constraints due to environmental issues
- Plans and schedules all surveys, monitoring and compliance work to meet regulatory requirements
- Ensures that Project workload (including in-house and contract labor) is tracked and that targets (both schedule and budget) are met.
- Ensure the proper coordination, staff utilization and satisfactory completion of all assigned work.

3. Project Communication
- Ensure that consistent cost and schedule updates are provided to project leads for each project supported
- Ensure that business partners are aware of potential cost over/under runs and any project deliverable schedule delays are identified as early in the project planning and implementation process as possible

4. Relationship Management
- Works closely with senior staff and other technical disciplines to develop appropriate permitting/licensing and mitigation strategies
- Represent the company in agency/stakeholder interactions and negotiations to best meet the goals and objectives of PG&E while maintaining compliance with all state and federal guidelines and laws
- Develops and/or reviews agency or public meeting presentations for projects you are assigned and ensure that the presentation is factually accurate and based on sound scientific principles
- Assists in project communications and negotiations with regulatory agencies and other stakeholders on sensitive biological issues

5. Technical Project Management
- As a member of a multidisciplinary project team, develops scope, schedule, and budget as the technical lead for the biological work component
- Assists in development of strategic permitting and licensing guidance for business partners and contractors
- Develops project biological study plans and evaluate for cost effectiveness
- Manages and provides technical oversight to contractors
- Plans and manages project studies and assessments associated with specific biological work scopes associated with licensing and permitting projects
- Helps develop technical responses to agency/NGO comments or requests for data

6. Technical Project Performance
- Conduct technical work, as required to meet project goals, using the highest standards of scientific investigation and analysis.
- Participate in design and implementation of technical studies; identify/analyze project impacts; and develop/recommend protection, mitigation, and enhancement measures.
- Prepare or provide oversight to preparation of technical reports and input for licensing and permitting documents.
- Work collaboratively with agencies and non-governmental organizations to resolve licensing and permitting issues.
- Review and comment on environmental documents as requested.

7. Technical Quality Assurance
**Journey Aquatic Biologist (50327905)**

- Ensures that all technical work (contractor or self-generated) meets the current standards required by regulatory agencies
- Supports technical consistency across lines of business, unit, and multiple projects.

**8. Cost/ Schedule Management**
- Manages cost commitments within the project budget
- Ensures project budgets are estimated and submitted as required by business partners.
- Provides technical and administrative oversight for contracted work
- Ensures that all schedule and deliverable commitments are met on or before the planned due dates

**9. Contractor Selection**
- Develops technical scope of work and requests for proposals
- Conducts proposal evaluations and select successful bidder
- Supports company strategic sourcing and diversity supplier initiatives

**Interaction**

External contacts include directing contractors and other vendors, responding to third-party information requests (for example, government, regulatory or community groups), and participating when requested in presentations before or negotiations with third-party groups. Internal interactions involve working with staff from other work units within the department as well as staff from all other lines of business throughout the company. May also provide guidance and/or oversight of work of less experienced biologists.

**Job Qualifications:**

<table>
<thead>
<tr>
<th>Education</th>
<th>Holds a four-year BS/BA degree in Natural Resources, Water Quality, Biology, Ecology, or related sciences with direct application to current job responsibilities.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Licenses /</td>
<td>Valid driver’s license is required.</td>
</tr>
<tr>
<td>Certifications</td>
<td></td>
</tr>
<tr>
<td>Experience</td>
<td>4-6 years of relevant industry or resource agency experience or 1-3 years company experience at the Associate Aquatic Biologist level.</td>
</tr>
<tr>
<td>Knowledge /</td>
<td>Has demonstrated knowledge of science, basic project management, and company business processes sufficient to warrant assignment of moderately complex project scopes and implementation plans.</td>
</tr>
</tbody>
</table>
| Abilities       | **Technical Knowledge**
|                 | Possesses intermediate-level knowledge of principles related to job responsibilities.                                                                                                                                |
|                 | **Laws, Regulations and Standards**
|                 | Possesses an intermediate-level knowledge and understanding of local standards and ordinances, as well as state, and federal laws that pertain to Aquatic resources. |
|                 | **Level of Direction Required**
|                 | Works independently on routine job tasks or small to medium sized projects and as a member of a team on larger projects with some supervision and guidance. Effectively manages small projects or tasks (scope, schedule and budget). Effectively completes multiple small projects/tasks, concurrently. |
### Journey Aquatic Biologist (50327905)

<table>
<thead>
<tr>
<th>Complexity of Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effectively manages small to medium sized projects or tasks (scope, schedule and budget). Effectively manages multiple assignments concurrently. Prepares reports and provides recommendations to business partners based on an analytical approach.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level of Initiative Demonstrated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Looks for opportunities to improve processes and procedures to achieve greater efficiency and cost savings. Exercises creative thinking in both technical and administrative job roles. Demonstrates awareness of and focus on departmental and company goals and initiatives.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Communication Skills (written and verbal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrates strong technical writing skills. Authors letters, reports or other submittals regarding small to moderate scale projects. May play a supporting role during some agency consultations. Utilizes appropriate and effective presentation skills/tools with both internal and external groups. Will serve as leader at group meetings.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analytical Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uses an analytical approach to problem solving. Uses independent judgment in applying appropriate principles and techniques in a broad range of situations to arrive at optimum solutions from the standpoint of practicality and cost-effectiveness.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Planning and Project Management Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitors and identifies potential variances from assigned budgets. Exercises appropriate controls on costs. Defines small project or scopes of work and adequately addresses resources when planning projects. Manages contractors and/or develops small-mid scale Project contracts. Contributes in the development of the project budget.</td>
</tr>
</tbody>
</table>

| Possesses the ability to define project scope and adequately addresses resources when planning projects. |
| Manages and controls assigned budgets within a portfolio area. |

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### Senior Aquatic Biologist (50327907)

<table>
<thead>
<tr>
<th>Summary</th>
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<tbody>
<tr>
<td>This is a senior-level Aquatic Biologist who has demonstrated proficiency of the Journey Aquatic Biologist job duties. In this role, people and other resources are managed directly as a part of a project team. This position will typically manage large project and complex task-level work consistent with technical background, and will often lead aspects of the development and implementation of assigned projects.</td>
</tr>
</tbody>
</table>

| The senior-level Aquatic Biologist takes a lead role for project work assignments across lines of business and manages large contracts with complex multi-task deliverables. Projects managed generally have multi-year duration, require significant risk management, and may include formal partnering agreements with outside firms. A Senior Level may direct an entire work contribution (multidisciplinary effort) for a larger project, with appropriate technical oversight by other specialists. The position requires an extensive |
## Senior Aquatic Biologist (50327907)

Knowledge of the biological issues associated with utility projects and requires the individual to leverage experience gained and client relationships to help meet PG&E goals and objectives. The senior-level Aquatic Biologist demonstrates excellent project management skills, a growing reputation as a subject matter expert and problem solver, extensive contract management skills, excellent verbal and written communication skills, and sound judgment to independently resolve complex problems with only general direction. The position supports others on programmatic solutions outside of assigned projects, process improvements, regulatory relations, contracting strategies, and very large and/or complex projects. Assignments regularly provide an opportunity for creative or non-standard approaches. Work may be reviewed upon completion; solutions may provide an opportunity for future creative/non-standard approaches. Responsibilities may include privileged and confidential work.

### Job Duties:

Performs functions of the Journey level biologist, but for more complex, larger budget, and higher profile projects. Jobs duties will include but are not limited to:

1. **Safety**
   - Performs all work in accordance with PG&E safety goals and practices:
     - Completes all required safety training
     - Promotes safety awareness

2. **Project Planning and Workload Management**
   - For all applicable projects ensures that work scope, schedule and cost are accurately defined and approved by the business partner before work proceeds on the project.
   - Provides timely input to project schedules identifying known or likely requirements for seasonal biological fieldwork and seasonal work constraints due to environmental issues
   - Plans scope, schedules, and budgets for all surveys, monitoring and compliance work to meet regulatory requirements
   - Ensures that project workload (including in-house and contract labor) is tracked and specific classification level targets are met.
   - Ensure the proper coordination, staff utilization and satisfactory completion of all assigned work

3. **Project Communication**
   - Ensure that consistent cost and schedule are provided to all team leads for each project supported
   - Ensures that business partners are aware of potential cost over/under runs and that potential schedule delays are identified as early in the project planning and implementation process as possible

4. **Relationship Management**
   - Represents the company in agency/stakeholder interactions and negotiations to best meet the goals and objectives of PG&E while maintaining compliance with all state and federal guidelines and laws
   - Works closely with business partners and other specialists within the department to develop appropriate permitting/licensing and mitigation strategies
   - Develops and/or reviews agency or public meeting presentations for
<table>
<thead>
<tr>
<th><strong>SENIOR AQUATIC BIOLOGIST (50327907)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>projects you are assigned and ensure that the presentation is factually accurate and based on sound scientific principles</td>
</tr>
<tr>
<td>• When requested assists in communications and negotiations on sensitive environmental issues with stakeholders</td>
</tr>
</tbody>
</table>

5. **Technical Project Management**

• As a member of a multidisciplinary project team, develops scope, schedule, and budget as the technical lead for biological work assignments.

• Provides strategic permitting and licensing guidance to business partners, other technical staff in the department and contractors

• Develops project biological study plans and evaluates for cost effectiveness

• Manages and provides technical oversight to contractors

• Plans and manages implementation of studies and assessments associated with specific biological work scopes associated with licensing and permitting

• Manage studies in support of licenses, permits and compliance

• Provide guidance and oversight for the preparation/collection of needed data to support the development of licensing and permitting applications

• Provides technical expertise for responses to agency/NGO comments or requests for data

6. **Technical Project Performance**

• Conduct or direct technical work, as required to meet project goals, using the highest standards of scientific investigation and analysis.

• Design or collaborate with contract scientists in design of technical studies; identify/analyze project impacts; and develop/recommend protection, mitigation, and enhancement measures.

• Prepare or oversee preparation of technical reports and input for licensing and permitting documents.

• Work collaboratively with agencies and non-governmental organizations to resolve licensing and permitting issues.

• Review and comment on regulatory agency or third-party environmental documents as requested.

7. **Technical Quality Assurance**

• Ensures that all technical work (contractor or self-generated) meets the standards required by the regulatory agency guidelines, and as may apply utility standard practices, policies and guidelines concerning natural resources protection

• Provide technical quality assurance for contract work

• Supports a consistent adherence to technical and professional standards in the performance of all biological work

8. **Cost/ Schedule Management**

• Manages cost commitments within the project budget

• Ensures project budgets are estimated and submitted as required by business partners.

• Provides technical and contract administration oversight for all assigned work

• Ensures that all schedule and deliverable commitments are met on or
### SENIOR AQUATIC BIOLOGIST (50327907)

<table>
<thead>
<tr>
<th>Contractor Selection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develops technical scope of work and submit requests for proposals</td>
</tr>
<tr>
<td>Conduct proposal evaluations and selection of successful bidder, or may initiate a sole source award with written justification</td>
</tr>
<tr>
<td>Supports company strategic sourcing and diversity supplier initiatives</td>
</tr>
</tbody>
</table>

#### Interaction

External contacts involve state and federal agencies, non-governmental organizations and community groups; also specific industry and professional groups. Internal contacts include company staff from all lines of business and PG&E internal services organizations. The Senior Aquatic Biologist may be called upon to discuss and report progress, exchange and coordinate information, manage meetings and provide appropriate expert opinion. Provides technical guidance and/or oversight of work to less experienced team members.

#### Job Qualifications:

**Education**

Holds a minimum four-year BS/BA degree in Natural Resources, Water Quality, Biology, Ecology, or related sciences with an emphasis on Aquatic ecosystems.

**Licenses / Certifications**

Valid driver’s license required.

**Experience**

Mastery of the Journey level Aquatic Biologist job duties and demonstrated knowledge, leadership, and ability to perform the basic duties of the Senior level Aquatic Biologist.

8-10 years relevant professional work experience.

**Knowledge / Abilities**

**Technical Knowledge**

Applies extensive knowledge of Aquatic ecology, project management, and business processes to independently resolve complex problems. This expertise is recognized inside and outside the department.

**Laws, Regulations and Standards**

Possesses thorough knowledge of laws, utility standard practices and procedural protocols pertaining to Aquatic ecology and the utility industry.

**Level of Direction Required**

Works independently with only general direction. Can serve as team leader. Assignments are of broad scope and complexity. Assignments require integration of information from a variety of sources.

**Complexity of Assignments**

Contributes significantly in developing company procedures, specifications and guidelines. Maintains a lead technical role in regulatory agency communications and negotiations.

**Level of Initiative Demonstrated**

Takes ownership of complex problems and seeks to develop solutions with broad applicability.
### SENIOR AQUATIC BIOLOGIST (50327907)

<table>
<thead>
<tr>
<th>Strives at all times to improve processes and procedures by identifying and evaluating new methods or techniques to achieve company goals.</th>
</tr>
</thead>
</table>
| **Business Partners**  
Recognizes where business process improvements are needed and develops and communicates cost-effective solutions beneficial to business partner organizations. |
| **Communication and Agency Consultation Skills**  
Prepares letters, reports and other submittals to outside entities regarding moderate to large scale projects. May be called upon to make presentations within and outside PG&E. May be asked to negotiate and/or testify on behalf of the Company. |
| **Analytical Skills**  
Uses an analytical approach to problem solving, and demonstrates good judgment in arriving at decisions and recommendations. Uses independent judgment in applying appropriate principles and techniques in a broad range of situations to arrive at optimum solutions from the standpoint of practicality and cost-effectiveness. |
| **Leadership Skills**  
Provides leadership, direction and assistance as appropriate to other employees and teams. Acts as a mentor to Associate and Journey-level employees and educates PG&E personnel on environmental and biological issues. |
| **Planning and Project Management Skills**  
Will complete at least one post graduate course or one PG&E instructor-led course in project management. |

### SENIOR CONSULTING SCIENTIST AQUATIC BIOLOGY

| Summary | This position is responsible for planning, directing, and coordinating activities in the aquatic biology field, including contract management and research and development activities to support utility goals and objectives. This position will routinely confer and interact with other scientists, engineers, regulators and others to plan and review complex projects and broad utility programs, and to provide expert technical advice and direction. This position will prepare and administer project and program scope, schedule, and budgets; review and approve expenditures, and will report the status of work activities as needed. |
| --- |
| The Senior Consulting Scientist is a widely recognized biological expert within the company and with external partners and stakeholders. Their extensive scientific knowledge combined with a thorough understanding of utility OM&C practices and excellent program management skills are called upon to help resolve complex challenges and/or advise or directly negotiate and resolve broad or complex settlement and license agreements. Routinely requested by management to develop strategic and tactical solutions for the most complex business endeavors, including programs and projects they don’t otherwise manage. The Senior Consulting Scientist also manages the environmental portion of multiple complex, high risk, or very large engineering, construction, and/or regulatory projects and resolves problems of very complex scope. Regularly takes a leadership role on projects that are complex from a technical or regulatory perspective. Customarily and regularly uses discretion and |
#### **Senior Consulting Scientist Aquatic Biology**

<table>
<thead>
<tr>
<th>independent judgment in fulfilling these job functions.</th>
<th>Provides leadership, coaching and development of less experienced scientists. Provides technical briefings, advice, and/or recommendations to upper management. Responsibilities may include Privileged and Confidential work. Regularly supports Directors, Managers, Principals, and Supervising engineers and project managers on programmatic solutions, process improvements, regulatory relations and strategies, and contracting strategies.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Job Duties:</strong></td>
<td>Job duties include all the duties of Senior Biologist and in addition:</td>
</tr>
</tbody>
</table>

1. **Safety**
   - Perform all work in accordance with PG&E safety goals and practices:
     - Complete all required safety training
     - Promote safety awareness

2. **Project Planning and Workload Management**
   - Ensure that work scope, schedule and cost are accurately defined and approved by the business partner before work proceeds on individual projects.
   - Plan and schedule all studies to ensure that project specific regulatory requirements are met.
   - Ensure that strategically managed labor is tracked and reported monthly.
   - Ensure the proper coordination, staff utilization and satisfactory completion of all assigned work.
   - Senior Consulting Scientists are expected to manage a natural resource based program or segment of a business partner’s workload (by region or type of work) on behalf of the department. The Senior Consulting Scientist will serve as a program manager for that segment of the workload providing direct oversight for the management of the program.

3. **Relationship Management**
   - Represent the company in agency/stakeholder interactions and negotiations to best meet the goals and objectives of PG&E including full compliance with both the letter and intent of all state and federal natural resource laws
   - Develop and/or review agency or public meeting presentations for assigned projects and ensure that the presentation is factual and based on sound scientific principles

4. **Project Management**
   - As the technical subject matter expert, and as a member of a multidisciplinary project team, develop scope, schedule, and budget for the biological component of all assigned licensing and permitting work; obtain business partner approvals before work begins
   - Ensure that cost and schedule updates for assigned projects and programs are provided to Business Partners at an agreed upon interval.
   - Inform business partners of potential cost over/under runs and identify any potential schedule delays as early as possible
   - Provide strategic permitting and licensing guidance to business partners and contractors
   - Develop specific project study plans for cost effectiveness
   - Plan and manage implementation of studies and assessments
**SENIOR CONSULTING SCIENTIST AQUATIC BIOLOGY**

- Associated with specific biological work scopes in support of license compliance, permit compliance and as may be necessary for project planning; ensure these meet current technical standards
  - Provide technical expertise on PG&E projects for responses to agency/NGO comments or requests for data
  - Manage and provide technical oversight to contractors
  - Responsible for natural resource based interaction with regulatory agencies and for providing oversight of other project participants that may interact with these agencies on natural resource issues.
  - Ensure a consistent approach by project teams, one that is rooted in current regulatory law and policies and that is also consistent with PG&E’s goal of being a leader in the environmental arena,
  - Provide technical and contract administration oversight for assigned environmental workload
  - Ensure that all schedule commitments and key program deliverables are met on or before the planned due dates
  - Develop contractor technical scope of work and submit requests for proposals
  - Conduct proposal evaluations and select successful bidder
  - Ensure that company strategic sourcing program is implemented on all appropriate projects
  - Ensure that diversity spend requirements and practices are followed
  - Functions as the lead point-of-contact on natural resource issues for business partners
  - Contributes to the development of capital and/or expense budgets.
  - Provides effective management of project teams in meeting established goals.
  - May apply formal project management techniques for major projects and programs.

**Interaction**

When applicable, establishes and maintains good relations with counterparts and higher level representatives in third party organizations, e.g., governmental, regulatory, business partner or community entities, using skilled negotiation, tact and diplomacy. Internal contacts are primarily with Electric Transmission and Distribution, CGT, and Power Generation personnel, Law Department, PG&E internal services organization, and company management at the officer, director and manager level. Serves as the most senior level technical expert on the team. May partner with internal or external stakeholders to solve problems or explore alternative solutions. Often is a technical coach for others.

**Job Qualifications:**

**Education**

Advanced degree (MA, MS, or PhD) in Natural Resources, Aquatic Biology, Ecology, or related sciences.

**Licenses / Certifications**

May hold current professional registration with direct application to current job responsibilities (e.g. certified fisheries biologist, certified environmental professional).

Valid driver’s license required.

**Experience**

15 + years relevant experience (or less if employee consistently demonstrates consulting level performance and has a minimum of 5 years as a Senior).
<table>
<thead>
<tr>
<th>Knowledge / Abilities / Skills</th>
<th><strong>SENIOR CONSULTING SCIENTIST AQUATIC BIOLOGY</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Additional Technical Knowledge</td>
<td>Experience as technical lead on multiple large and complex Company projects that are “high profile” in nature and carry political or other risks for the Company.</td>
</tr>
<tr>
<td>2. Laws, Regulations and Standards</td>
<td>Demonstrates a significant depth of experience both within and outside of PG&amp;E as a leader/expert in one or more technical disciplines related to job responsibilities.</td>
</tr>
<tr>
<td>3. Level of Direction Required</td>
<td>Demonstrates a significant depth of experience within PG&amp;E as well as outside the company as an expert on the application of laws, regulations, or standards to meet Company requirements.</td>
</tr>
<tr>
<td>4. Complexity of Assignments</td>
<td>Works independently with only limited oversight in most assignments provided by Environmental Services management.</td>
</tr>
<tr>
<td>5. Level of Initiative Demonstrated</td>
<td>Routinely requested to manage programs of high visibility and high potential liability and exposure to the company. Performs assignments of broad scope and high complexity which require integration of information from a variety of sources. Routinely applies extensive knowledge of technical principles, OM&amp;C practices and/or regulatory requirements to resolve complex problems.</td>
</tr>
<tr>
<td>6. Business Partners</td>
<td>Seeks opportunities to create state of the art solutions to address emerging company issues.</td>
</tr>
<tr>
<td>7. Communication and Agency Consultation Skills</td>
<td>Provides superior service to business partners in matters of broad application and high complexity. Provides management of financial resources; management of staff and contractor resources; information organization as part of the program management.</td>
</tr>
<tr>
<td>8. Analytical Skills</td>
<td>Prepares or supervises preparation of letters, reports and other submittals for outside entities regarding moderate to large scale projects. May be called upon to make presentations within and outside PG&amp;E. Supports negotiations and/or testifies on behalf of the Company.</td>
</tr>
</tbody>
</table>

Possesses the ability to assess business conditions, problem identification, identifies opportunities, and develops products, programs, and/or services
<table>
<thead>
<tr>
<th><strong>SENIOR CONSULTING SCIENTIST AQUATIC BIOLOGY</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>from a multifunctional, cross-process perspective to enhance corporate business positions. Makes decisions that consistently improve company performance.</td>
</tr>
</tbody>
</table>

9. **Leadership Skills**  
Desires to act as a role model and mentor for other technical professionals.

<table>
<thead>
<tr>
<th><strong>ASSOCIATE TERRESTRIAL BIOLOGIST (50326837)</strong></th>
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</thead>
</table>
| **Summary**  
This Associate Level Terrestrial Biologist position is the first in a technical progression. The job performs tasks of limited scope under the guidance of more senior biologists and project managers. Task-level project work includes time spent in the field where additional knowledge of company operations, work practices, and facilities will be gained. Project participation is primarily focused at acquiring in-depth understanding of utility OM&C activities, PG&E’s environmental management goals and objectives, and business processes. This level of involvement refines and develops both technical skills and project management skills while contributing to project assignments across all lines of business.  

This job provides some project management support and significant technical support in the field, on multiple routine to moderately complex projects to various Business Partners. Responsibilities may include Privileged and Confidential work.  

Manages issues and projects and resolves problems of defined scope and/or supports more experienced biologists and/or project managers on more complex and large scope projects. Assignments typically require application of standard solutions, but may include an increased level of innovation on a periodic basis. Under general direction, independently plans & manages work to meet commitments and assigned objectives. Progress reviewed periodically for technical accuracy & adequacy throughout process. |

<table>
<thead>
<tr>
<th><strong>Job Duties:</strong></th>
<th>Initial assignments from the tasks below will require direction and supervision. Jobs duties will include:</th>
</tr>
</thead>
</table>
| **1. Safety**   | Performs all work in accordance with PG&E safety goals and practices  
                      - Completes all required safety training annually  
                      - Promotes safety awareness  
                      - Conducts all work in accordance with all safety procedures |
| **2. Project Planning and Workload Management** | Ensures that workload (including in-house and contract labor, deliverables, and schedule commitments) is properly managed and tracked and targets are met.  
                      - Ensures the satisfactory completion of all assigned work |
| **3. Project Communication** | Ensure that consistent cost and schedule updates are provided to all project leads for each project supported  
                      - Ensures that business partners are aware of potential cost over/under runs and any project deliverable schedule delays are identified as |
<table>
<thead>
<tr>
<th><strong>ASSOCIATE TERRESTRIAL BIOLOGIST (50326837)</strong></th>
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</thead>
<tbody>
<tr>
<td>early in the project planning and implementation process as possible</td>
</tr>
</tbody>
</table>

4. **Relationship Management**
   - Works closely with senior staff and other technical disciplines within the Department to learn appropriate permitting/licensing and mitigation strategies
   - Develop and/or review agency or public meeting presentations for projects you are assigned and ensure that the presentation is factually accurate and based on sound scientific principles
   - Assist the PG&E lead in communications and negotiations on sensitive environmental issues with various stakeholders

5. **Technical Project Management**
   - Usually as a member of a multidisciplinary project team, help develop scope, schedule, and budget as a technical team member for the biological work you are assigned
   - Work closely with senior staff to provide strategic permitting and licensing guidance to business partners and contractors
   - Develop biological study plans to achieve regulatory compliance and cost effectiveness
   - Work closely with senior staff to manage and provide technical oversight to contractors
   - Work closely with senior staff to plan and manage implementation of studies and assessments associated with specific biological issues
   - Work closely with senior staff to manage studies in support of licenses, permits and compliance
   - Work closely with senior staff to provide guidance and oversight for the preparation/collection of needed data to support the development of licensing and permitting applications
   - Work closely with senior staff to provide technical expertise on PG&E projects for responses to agency/NGO comments or requests for data

6. **Technical Project Performance**
   - Conduct technical work, as required to meet project goals, using the highest standards of scientific investigation and analysis.
   - Implement technical studies; identify/analyze project impacts; and develop/recommend protection, mitigation, and enhancement measures.
   - Prepare technical reports and input for licensing and permitting documents.
   - Work collaboratively with agencies and non-governmental organizations to resolve licensing and permitting issues.
   - Review and comment on environmental documents as requested.

7. **Technical Quality Assurance**
   - Ensures that all technical reports (contractor or self-generated) meet the technical standards required by the regulatory agency guidelines
   - Provide technical quality assurance for contract work

8. **Cost/ Schedule Management**
   - Manages cost commitments within the project budget
   - Ensures project budgets are estimated and submitted as required by business partners.
**ASSOCIATE TERRERIAL BIOLOGIST (50326837)**

- Provides technical and contract administration oversight for all assigned work
- Ensures that all schedule and deliverable commitments are met on or before the planned due dates

### 9. Contractor Selection
- Arranges for services provided by outside biology contractors; develop contract documents, initiate shopping carts in SAP, and manage and provide technical oversight to contractors
- Helps develop technical scope of work and requests for proposals under direction of senior staff
- Participates in proposal evaluations and selection of successful bidder
- Support the company strategic sourcing program and supplier diversification initiatives on all appropriate projects

### Interaction
External contacts typically involve oversight by more experienced biologists and/or project managers and include directing project-related work and contract administration with contractors; and providing information and conducting limited discussions with external stakeholders.

Internal contacts are primarily with Electric Transmission and Distribution, CGT, and Power Generation including O&M clients and project team members, and PG&E internal services organizations.

### Job Qualifications:

<table>
<thead>
<tr>
<th>Education</th>
<th>Holds a four-year BS/BA degree in Natural Resources, Botany, Biology, Ecology, or related sciences with direct application to current job responsibilities or related sciences.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Licenses / Certifications</td>
<td>Valid driver’s license required.</td>
</tr>
<tr>
<td>Experience</td>
<td>2-3 years of relevant industry or resource agency experience (or post-graduate degree).</td>
</tr>
<tr>
<td>Knowledge / Abilities</td>
<td>Able to apply basic biological and project management principles and theory.</td>
</tr>
</tbody>
</table>

#### Technical Knowledge
Possesses basic-level knowledge of principles related to job responsibilities in applicable technical field.

#### Laws, Regulations and Standards
Possesses basic-level knowledge of environmental laws and regulations that pertain to current job responsibilities.

#### Level of Direction Required
Works on assigned tasks with supervision of methods and progress.

#### Complexity of Assignments
Assists other professionals, projects teams and department management by developing, compiling and providing technical data.

#### Level of Initiative Demonstrated
Offers new ideas and suggestions for improvements.
ASSOCIATE TERRESTRIAL BIOLOGIST (50326837)

**Communication Skills (written and verbal)**
Communicates effectively. Possesses sound basic verbal communication skills; writing is concise, coherent.

**Analytical Skills**
Some experience with analytical tools / approach to problem solving (statistical analysis, geospatial analysis, modeling, etc.)

**Planning and Project Management Skills**
Monitors their own costs to stay within budget. With guidance, exercises appropriate controls on costs.

JOURNEY TERRESTRIAL BIOLOGIST (50327916)

**Summary**
This is a Journey-level Terrestrial Biologist position that works under the general direction of more senior biologists and/or project managers. The Journey-Level Terrestrial Biologist is responsible for small-to-moderate size projects consistent with technical background. The Journey-Level Terrestrial Biologist participates on interdisciplinary teams utilizing intermediate-level knowledge of principles related to job responsibilities, utility operations, PG&E’s environmental management goals and objectives, and business processes. The position is expected to use independent judgment; enhanced verbal and written communication skills and have the ability to work with minimal supervision. The Journey-Level Terrestrial Biologist possesses an intermediate-level knowledge and understanding of local standards, ordinances, state, and federal laws that pertain to technical job responsibilities and can demonstrate successful management of multiple small to moderate sized Company projects.

In this role, people and other resources are managed indirectly as part of a project team. The Journey-Level Terrestrial Biologist is responsible for the development and implementation of assigned projects, and may spend a portion of time participating in or directing technical work in the field. The position requires a working knowledge of industry practices, standards, and equipment; Responsibilities may include Privileged and Confidential work.

Assignments typically require standard solutions, but may include an increased level of innovation on a periodic basis. Under limited general direction, independently plans work to meet assigned objectives; progress is reviewed periodically for technical accuracy and adequacy in process and upon completion.

**Job Duties:**
Some direction and supervision is required. The need for supervision is expected to decrease with increased time in-grade. Job duties will include but are not limited to:

1. **Safety**
   - Performs all work in accordance with PG&E safety goals and practices
     - Completes all required safety training
     - Promotes safety awareness
     - Conducts work in accordance with all safety procedures

2. **Project Planning and Workload Management**
**JOURNEY TERRESTRIAL BIOLOGIST (50327916)**

- Ensures that work scope, schedule and cost are accurately defined and approved by the business partner before work proceeds on the project.
- Actively plan, estimate and manage the biological work for specific projects
- Provides timely input to project schedules identifying known or likely requirements for seasonal bio-fieldwork and seasonal work constraints due to environmental issues
- Plans and schedules all surveys, monitoring and compliance work to meet regulatory requirements
- Ensures that Project workload (including in-house and contract labor) is tracked and that targets (both schedule and budget) are met.
- Ensure the proper coordination, staff utilization and satisfactory completion of all assigned work.

3. **Project Communication**
- Ensure that consistent cost and schedule updates are provided to project leads for each project supported
- Ensure that business partners are aware of potential cost over/under runs and any project deliverable schedule delays are identified as early in the project planning and implementation process as possible

4. **Relationship Management**
- Works closely with senior staff and other technical disciplines to develop appropriate permitting/licensing and mitigation strategies
- Represent the company in agency/stakeholder interactions and negotiations to best meet the goals and objectives of PG&E while maintaining compliance with all state and federal guidelines and laws
- Develops and/or reviews agency or public meeting presentations for projects you are assigned and ensure that the presentation is factually accurate and based on sound scientific principles
- Assists in project communications and negotiations with regulatory agencies and other stakeholders on sensitive biological issues

5. **Technical Project Management**
- As a member of a multidisciplinary project team, develops scope, schedule, and budget as the technical lead for the biological work component
- Assists in development of strategic permitting and licensing guidance for business partners and contractors
- Develops project biological study plans and evaluate for cost effectiveness
- Manages and provides technical oversight to contractors
- Plans and manages project studies and assessments associated with specific biological work scopes associated with licensing and permitting projects
- Helps develop technical responses to agency/NGO comments or requests for data

6. **Technical Project Performance**
- Conduct technical work, as required to meet project goals, using the highest standards of scientific investigation and analysis.
- Participate in design and implementation of technical studies; identify/analyze project impacts; and develop/recommend protection, mitigation, and enhancement measures.
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<tr>
<th>JOURNEY TERRESTRIAL BIOLOGIST (50327916)</th>
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</table>
| • Prepare or provide oversight to preparation of technical reports and input for licensing and permitting documents.  
• Work collaboratively with agencies and non-governmental organizations to resolve licensing and permitting issues.  
• Review and comment on environmental documents as requested.  |
| 7. Technical Quality Assurance |
| • Ensures that all technical work (contractor or self-generated) meets the current standards required by regulatory agencies  
• Supports technical consistency across lines of business, unit, and multiple projects.  |
| 8. Cost/ Schedule Management |
| • Manages cost commitments within the project budget  
• Ensures project budgets are estimated and submitted as required by business partners.  
• Provides technical and administrative oversight for contracted work  
• Ensures that all schedule and deliverable commitments are met on or before the planned due dates  |
| 9. Contractor Selection |
| • Develops technical scope of work and requests for proposals  
• Conducts proposal evaluations and select successful bidder  
• Supports company strategic sourcing and diversity supplier initiatives |

Interaction

External contacts include directing contractors and other vendors, responding to third-party information requests (for example, government, regulatory or community groups), and participating when requested in presentations before or negotiations with third-party groups. Internal interactions involve working with staff from other work units within the department as well as staff from all other lines of business throughout the company. May also provide guidance and/or oversight of work of less experienced biologists.

Job Qualifications:

<table>
<thead>
<tr>
<th>Education</th>
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<tbody>
<tr>
<td>Holds a four-year BS/BA degree in Natural Resources, Botany, Biology, Ecology, or related sciences with direct application to current job responsibilities.</td>
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<table>
<thead>
<tr>
<th>Licenses / Certifications</th>
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<tbody>
<tr>
<td>Valid driver’s license is required.</td>
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<tr>
<th>Experience</th>
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<tbody>
<tr>
<td>4-6 years of relevant industry or resource agency experience or 1-3 years company experience at the Associate Terrestrial Biologist level.</td>
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<thead>
<tr>
<th>Knowledge / Abilities</th>
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<tbody>
<tr>
<td>Has demonstrated knowledge of science, basic project management, and company business processes sufficient to warrant assignment of moderately complex project scopes and implementation plans.</td>
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</table>

Technical Knowledge

Possesses intermediate-level knowledge of principles related to job responsibilities.

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<thead>
<tr>
<th>Laws, Regulations and Standards</th>
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</thead>
<tbody>
<tr>
<td>Possesses an intermediate-level knowledge and understanding of local standards and ordinances, as well as state, and federal laws that pertain to terrestrial resources.</td>
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</table>
### JOURNEY TERRESTRIAL BIOLOGIST (50327916)

**Level of Direction Required**
Works independently on routine job tasks or small to medium sized projects and as a member of a team on larger projects with some supervision and guidance. Effectively manages small projects or tasks (scope, schedule and budget). Effectively completes multiple small projects/tasks, concurrently.

**Complexity of Assignments**
Effectively manages small to medium sized projects or tasks (scope, schedule and budget). Effectively manages multiple assignments concurrently. Prepares reports and provides recommendations to business partners based on an analytical approach.

**Level of Initiative Demonstrated**
Looks for opportunities to improve processes and procedures to achieve greater efficiency and cost savings. Exercises creative thinking in both technical and administrative job roles. Demonstrates awareness of and focus on departmental and company goals and initiatives.

**Communication Skills (written and verbal)**
Demonstrates strong technical writing skills. Authors letters, reports or other submittals regarding small to moderate scale projects. May play a supporting role during some agency consultations. Utilizes appropriate and effective presentation skills/tools with both internal and external groups. Will serve as leader at group meetings.

**Analytical Skills**
Uses an analytical approach to problem solving. Uses independent judgment in applying appropriate principles and techniques in a broad range of situations to arrive at optimum solutions from the standpoint of practicality and cost-effectiveness.

**Planning and Project Management Skills**
Monitors and identifies potential variances from assigned budgets. Exercises appropriate controls on costs. Defines small project or scopes of work and adequately addresses resources when planning projects. Manages contractors and/or develops small-mid scale Project contracts. Contributes in the development of the project budget.

Possesses the ability to define project scope and adequately addresses resources when planning projects.

Manages and controls assigned budgets within a portfolio area.

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### SENIOR TERRESTRIAL BIOLOGIST (50311306)

**Summary**
This is a senior-level Terrestrial Biologist who has demonstrated proficiency of the Journey Terrestrial Biologist job duties. In this role, people and other resources are managed directly as a part of a project team. This position will typically manage large project and complex task-level work consistent with technical background, and will often lead aspects of the development and implementation of assigned projects.
### SENIOR TERRESTRIAL BIOLOGIST (50311306)

The senior-level Terrestrial Biologist takes a lead role for project work assignments across lines of business and manages large contracts with complex multi-task deliverables. Projects managed generally have multi-year duration, require significant risk management, and may include formal partnering agreements with outside firms. A Senior Level may direct an entire work contribution (multidisciplinary effort) for a larger project, with appropriate technical oversight by other specialists. The position requires an extensive knowledge of the biological issues associated with utility projects and requires the individual to leverage experience gained and client relationships to help meet PG&E goals and objectives. The senior-level Terrestrial Biologist demonstrates excellent project management skills, a growing reputation as a subject matter expert and problem solver, extensive contract management skills, excellent verbal and written communication skills, and sound judgment to independently resolve complex problems with only general direction. The position supports others on programmatic solutions outside of assigned projects, process improvements, regulatory relations, contracting strategies, and very large and/or complex projects. Assignments regularly provide an opportunity for creative or non-standard approaches. Work may be reviewed upon completion; solutions may provide an opportunity for future creative/non-standard approaches. Responsibilities may include privileged and confidential work.

### Job Duties:

Performs functions of the Journey level biologist, but for more complex, larger budget, and higher profile projects. Jobs duties will include but are not limited to:

1. **Safety**
   - Performs all work in accordance with PG&E safety goals and practices:
     - Completes all required safety training
     - Promotes safety awareness

2. **Project Planning and Workload Management**
   - For all applicable projects ensures that work scope, schedule and cost are accurately defined and approved by the business partner before work proceeds on the project.
   - Provides timely input to project schedules identifying known or likely requirements for seasonal biological fieldwork and seasonal work constraints due to environmental issues
   - Plans scope, schedules, and budgets for all surveys, monitoring and compliance work to meet regulatory requirements
   - Ensures that project workload (including in-house and contract labor) is tracked and specific classification level targets are met.
   - Ensure the proper coordination, staff utilization and satisfactory completion of all assigned work

3. **Project Communication**
   - Ensure that consistent cost and schedule are provided to all team leads for each project supported
   - Ensures that business partners are aware of potential cost over /under runs and that potential schedule delays are identified as early in the project planning and implementation process as possible

4. **Relationship Management**
### **Senior Terrestrial Biologist (50311306)**

- Represents the company in agency/stakeholder interactions and negotiations to best meet the goals and objectives of PG&E while maintaining compliance with all state and federal guidelines and laws.
- Works closely with business partners and other specialists within the department to develop appropriate permitting/licensing and mitigation strategies.
- Develops and/or reviews agency or public meeting presentations for projects you are assigned and ensure that the presentation is factually accurate and based on sound scientific principles.
- When requested assists in communications and negotiations on sensitive environmental issues with stakeholders.

#### 5. Technical Project Management
- As a member of a multidisciplinary project team, develops scope, schedule, and budget as the technical lead for biological work assignments.
- Provides strategic permitting and licensing guidance to business partners, other technical staff in the department and contractors.
- Develops project biological study plans and evaluates for cost effectiveness.
- Manages and provides technical oversight to contractors.
- Plans and manages implementation of studies and assessments associated with specific biological work scopes associated with licensing and permitting.
- Manages studies in support of licenses, permits and compliance.
- Provides guidance and oversight for the preparation/collection of needed data to support the development of licensing and permitting applications.
- Provides technical expertise for responses to agency/NGO comments or requests for data.

#### 6. Technical Project Performance
- Conduct or direct technical work, as required to meet project goals, using the highest standards of scientific investigation and analysis.
- Design or collaborate with contract scientists in design of technical studies; identify/analyze project impacts; and develop/recommend protection, mitigation, and enhancement measures.
- Prepare or oversee preparation of technical reports and input for licensing and permitting documents.
- Work collaboratively with agencies and non-governmental organizations to resolve licensing and permitting issues.
- Review and comment on regulatory agency or third-party environmental documents as requested.

#### 7. Technical Quality Assurance
- Ensures that all technical work (contractor or self-generated) meets the standards required by the regulatory agency guidelines, and as may apply utility standard practices, policies and guidelines concerning natural resources protection.
- Provide technical quality assurance for contract work.
- Supports a consistent adherence to technical and professional standards in the performance of all biological work.
8. **Cost/Schedule Management**
   - Manages cost commitments within the project budget
   - Ensures project budgets are estimated and submitted as required by business partners.
   - Provides technical and contract administration oversight for all assigned work
   - Ensures that all schedule and deliverable commitments are met on or before the planned due dates

9. **Contractor Selection**
   - Develops technical scope of work and submit requests for proposals
   - Conduct proposal evaluations and selection of successful bidder, or may initiate a sole source award with written justification
   - Supports company strategic sourcing and diversity supplier initiatives

**Interaction**

External contacts involve state and federal agencies, non-governmental organizations and community groups; also specific industry and professional groups. Internal contacts include company staff from all lines of business and PG&E internal services organizations. The Senior Terrestrial Biologist may be called upon to discuss and report progress, exchange and coordinate information, manage meetings and provide appropriate expert opinion. Provides technical guidance and/or oversight of work to less experienced team members.

**Job Qualifications:**

**Education**

Holds a minimum four-year BS/BA degree in Natural Resources, Botany, Biology, Ecology, or related sciences with an emphasis on terrestrial ecosystems.

**Licenses / Certifications**

Valid driver’s license required.

**Experience**

Mastery of the Journey level Terrestrial Biologist job duties and demonstrated knowledge, leadership, and ability to perform the basic duties of the Senior level Terrestrial Biologist.

8-10 years relevant professional work experience.

**Knowledge / Abilities**

**Technical Knowledge**

Applies extensive knowledge of terrestrial ecology, project management, and business processes to independently resolve complex problems. This expertise is recognized inside and outside the department.

**Laws, Regulations and Standards**

Possesses thorough knowledge of laws, utility standard practices and procedural protocols pertaining to terrestrial ecology and the utility industry.

**Level of Direction Required**

Works independently with only general direction. Can serve as team leader. Assignments are of broad scope and complexity. Assignments require integration of information from a variety of sources.

**Complexity of Assignments**

Contributes significantly in developing company procedures, specifications.
<table>
<thead>
<tr>
<th><strong>Senior Terrestrial Biologist (50311306)</strong></th>
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<tr>
<td>and guidelines. Maintains a lead technical role in regulatory agency communications and negotiations.</td>
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</table>

**Level of Initiative Demonstrated**
Takes ownership of complex problems and seeks to develop solutions with broad applicability.

Strives at all times to improve processes and procedures by identifying and evaluating new methods or techniques to achieve company goals.

**Business Partners**
Recognizes where business process improvements are needed and develops and communicates cost-effective solutions beneficial to business partner organizations.

**Communication and Agency Consultation Skills**
Prepares letters, reports and other submittals to outside entities regarding moderate to large scale projects. May be called upon to make presentations within and outside PG&E. May be asked to negotiate and/or testify on behalf of the Company.

**Analytical Skills**
Uses an analytical approach to problem solving, and demonstrates good judgment in arriving at decisions and recommendations. Uses independent judgment in applying appropriate principles and techniques in a broad range of situations to arrive at optimum solutions from the standpoint of practicality and cost-effectiveness.

**Leadership Skills**
Provides leadership, direction and assistance as appropriate to other I employees and teams. Acts as a mentor to Associate and Journey-level employees and educates PG&E personnel on environmental and biological issues.

**Planning and Project Management Skills**
Will complete at least one post graduate course or one PG&E instructor-led course in project management.

<table>
<thead>
<tr>
<th><strong>Summary</strong></th>
<th><strong>Senior Consulting Scientist Terrestrial Biology</strong></th>
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<tbody>
<tr>
<td>This position is responsible for planning, directing, and coordinating activities in the terrestrial biology field, including contract management and research and development activities to support utility goals and objectives. This position will routinely confer and interact with other scientists, engineers, regulators and others to plan and review complex projects and broad utility programs, and to provide expert technical advice and direction. This position will prepare and administer project and program scope, schedule, and budgets; review and approve expenditures, and will report the status of work activities as needed.</td>
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</table>

The Senior Consulting Scientist is a widely recognized biological expert within the company and with external partners and stakeholders. Their extensive scientific knowledge combined with a thorough understanding of utility OM&C practices and excellent program management skills are called upon to help resolve complex challenges and/or advise or directly negotiate and resolve
### Senior Consulting Scientist Terrestrial Biology

Broad or complex settlement and license agreements. Routinely requested by management to develop strategic and tactical solutions for the most complex business endeavors, including programs and projects they don’t otherwise manage. The Senior Consulting Scientist also manages the environmental portion of multiple complex, high risk, or very large engineering, construction, and/or regulatory projects and resolves problems of very complex scope. Regularly takes a leadership role on projects that are complex from a technical or regulatory perspective. Customarily and regularly uses discretion and independent judgment in fulfilling these job functions.

Provides leadership, coaching and development of less experienced scientists. Provides technical briefings, advice, and/or recommendations to upper management. Responsibilities may include Privileged and Confidential work. Regularly supports Directors, Managers, Principals, and Supervising engineers and project managers on programmatic solutions, process improvements, regulatory relations and strategies, and contracting strategies.

<table>
<thead>
<tr>
<th>Job Duties:</th>
<th>Job duties include all the duties of Senior Biologist and in addition:</th>
</tr>
</thead>
<tbody>
<tr>
<td>**1. **Safety</td>
<td>- Perform all work in accordance with PG&amp;E safety goals and practices:</td>
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<tr>
<td></td>
<td>- Complete all required safety training</td>
</tr>
<tr>
<td></td>
<td>- Promote safety awareness</td>
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<tr>
<td><strong>2. Project Planning and Workload Management</strong></td>
<td>- Ensure that work scope, schedule and cost are accurately defined and approved by the business partner before work proceeds on individual projects.</td>
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<td></td>
<td>- Plan and schedule all studies to ensure that project specific regulatory requirements are met.</td>
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<td></td>
<td>- Ensure that strategically managed labor is tracked and reported monthly.</td>
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<td></td>
<td>- Ensure the proper coordination, staff utilization and satisfactory completion of all assigned work.</td>
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<td></td>
<td>- Senior Consulting Scientists are expected to manage a natural resource based program or segment of a business partner’s workload (by region or type of work) on behalf of the department. The Senior Consulting Scientist will serve as a program manager for that segment of the workload providing direct oversight for the management of the program.</td>
</tr>
<tr>
<td><strong>3. Relationship Management</strong></td>
<td>- Represent the company in agency/stakeholder interactions and negotiations to best meet the goals and objectives of PG&amp;E including full compliance with both the letter and intent of all state and federal natural resource laws</td>
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<tr>
<td></td>
<td>- Develop and/or review agency or public meeting presentations for assigned projects and ensure that the presentation is factual and based on sound scientific principles</td>
</tr>
<tr>
<td><strong>4. Project Management</strong></td>
<td>- As the technical subject matter expert, and as a member of a multidisciplinary project team, develop scope, schedule, and budget for the biological component of all assigned licensing and permitting work; obtain business partner approvals before work begins</td>
</tr>
</tbody>
</table>
| | - Ensure that cost and schedule updates for assigned projects and
<table>
<thead>
<tr>
<th><strong>Senior Consulting Scientist Terrestrial Biology</strong></th>
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<tbody>
<tr>
<td>programs are provided to Business Partners at an agreed upon interval.</td>
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<tr>
<td>• Inform business partners of potential cost over/under runs and identify any potential schedule delays as early as possible</td>
</tr>
<tr>
<td>• Provide strategic permitting and licensing guidance to business partners and contractors</td>
</tr>
<tr>
<td>• Develop specific project study plans for cost effectiveness</td>
</tr>
<tr>
<td>• Plan and manage implementation of studies and assessments associated with specific biological work scopes in support of license compliance, permit compliance and as may be necessary for project planning; ensure these meet current technical standards</td>
</tr>
<tr>
<td>• Provide technical expertise on PG&amp;E projects for responses to agency/NGO comments or requests for data</td>
</tr>
<tr>
<td>• Manage and provide technical oversight to contractors</td>
</tr>
<tr>
<td>• Responsible for natural resource based interaction with regulatory agencies and for providing oversight of other project participants that may interact with these agencies on natural resource issues.</td>
</tr>
<tr>
<td>• Ensure a consistent approach by project teams, one that is rooted in current regulatory law and policies and that is also consistent with PG&amp;E’s goal of being a leader in the environmental arena,</td>
</tr>
<tr>
<td>• Provide technical and contract administration oversight for assigned environmental workload</td>
</tr>
<tr>
<td>• Ensure that all schedule commitments and key program deliverables are met on or before the planned due dates</td>
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<tr>
<td>• Develop contractor technical scope of work and submit requests for proposals</td>
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<tr>
<td>• Conduct proposal evaluations and select successful bidder</td>
</tr>
<tr>
<td>• Ensure that company strategic sourcing program is implemented on all appropriate projects</td>
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<td>• Ensure that diversity spend requirements and practices are followed</td>
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<tr>
<td>• Functions as the lead point-of-contact on natural resource issues for business partners</td>
</tr>
<tr>
<td>• Contributes to the development of capital and/or expense budgets. Provides effective management of project teams in meeting established goals.</td>
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<tr>
<td>• May apply formal project management techniques for major projects and programs.</td>
</tr>
</tbody>
</table>

**Interaction**

When applicable, establishes and maintains good relations with counterparts and higher level representatives in third party organizations, e.g., governmental, regulatory, business partner or community entities, using skilled negotiation, tact and diplomacy. Internal contacts are primarily with Electric Transmission and Distribution, CGT, and Power Generation personnel, Law Department, PG&E internal services organization, and company management at the officer, director and manager level. Serves as the most senior level technical expert on the team. May partner with internal or external stakeholders to solve problems or explore alternative solutions. Often is a technical coach for others.

**Job Qualifications:**

**Education**

Advanced degree (MA, MS, or PhD) in Natural Resources, Botany, Biology, Ecology, or related sciences.

**Licenses /**

May hold current professional registration with direct application to current job
<table>
<thead>
<tr>
<th><strong>SENIOR CONSULTING SCIENTIST TERRESTRIAL BIOLOGY</strong></th>
</tr>
</thead>
</table>
| **Certifications** | responsibilities (e.g. certified wildlife or fisheries biologist, certified environmental professional).
|                    | Valid driver’s license required. |
| **Experience** | 15 + years relevant experience (or less if employee consistently demonstrates consulting level performance and has a minimum of 5 years as a Senior). Experience as technical lead on multiple large and complex Company projects that are “high profile” in nature and carry political or other risks for the Company. |
| **Knowledge / Abilities / Skills** | 1. **Additional Technical Knowledge**
Demonstrates a significant depth of experience both within and outside of PG&E as a leader/expert in one or more technical disciplines related to job responsibilities.

2. **Laws, Regulations and Standards**
Demonstrates a significant depth of experience within PG&E as well as outside the company as an expert on the application of laws, regulations, or standards to meet Company requirements.

3. **Level of Direction Required**
Works independently with only limited oversight in most assignments provided by Environmental Services management.

4. **Complexity of Assignments**
Routinely requested to manage programs of high visibility and high potential liability and exposure to the company. Performs assignments of broad scope and high complexity which require integration of information from a variety of sources. Routinely applies extensive knowledge of technical principles, OM&C practices and/or regulatory requirements to resolve complex problems.

5. **Level of Initiative Demonstrated**
Seeks opportunities to create state of the art solutions to address emerging company issues.

6. **Business Partners**
Provides superior service to business partners in matters of broad application and high complexity. Provides management of financial resources; management of staff and contractor resources; information organization as part of the program management.

7. **Communication and Agency Consultation Skills**
Prepares or supervises preparation of letters, reports and other submittals for outside entities regarding moderate to large scale projects. May be called upon to make presentations within and outside PG&E. Supports negotiations and/or testifies on behalf of the Company.

May be called upon to author letters, reports or other submittals regarding issues of high sensitivity to outside entities on behalf of PG&E management.

Is frequently called upon to make either verbal or written presentations within and outside PG&E.

8. **Analytical Skills**
Formulates approaches to address critical issues. May provide specialized
### Senior Consulting Scientist Terrestrial Biology

Technical project support in areas requiring specific skills if the skill is in limited supply in the general environmental consulting marketplace (e.g., modeling, utility remote sensing, and custom computer applications).

Possesses the ability to assess business conditions, problem identification, identifies opportunities, and develops products, programs, and/or services from a multifunctional, cross-process perspective to enhance corporate business positions. Makes decisions that consistently improve company performance.

#### 9. Leadership Skills
Desires to act as a role model and mentor for other technical professionals.

### Associate Cultural Resource Specialist (50327910)

#### Summary
This Associate Level Cultural Resource Specialist position is the first in a technical progression. The job performs tasks of limited scope under the guidance of more senior cultural resource specialists and project managers. Task-level project work includes time spent in the field where additional knowledge of company operations, work practices, and facilities will be gained. Project participation is primarily focused at acquiring in-depth understanding of utility OM&C activities, PG&E’s environmental management goals and objectives, and business processes. This level of involvement refines and develops both technical skills and project management skills while contributing to project assignments across all lines of business.

This job provides some project management support and significant technical support in the field, on multiple routine to moderately complex projects to various Business Partners. Responsibilities may include Privileged and Confidential work.

Manages issues and projects and resolves problems of defined scope and/or supports more experienced biologists and/or project managers on more complex and large scope projects. Assignments typically require application of standard solutions, but may include an increased level of innovation on a periodic basis. Under general direction, independently plans & manages work to meet commitments and assigned objectives. Progress reviewed periodically for technical accuracy & adequacy throughout process.

#### Job Duties:
Initial assignments from the tasks below will require direction and supervision. Jobs duties will include:

1. **Safety**
   - Performs all work in accordance with PG&E safety goals and practices
     - Completes all required safety training annually
     - Promotes safety awareness
     - Conducts all work in accordance with all safety procedures

2. **Project Planning and Workload Management**
   - Ensures that workload (including in-house and contract labor, deliverables, and schedule commitments) is properly managed and tracked and targets are met.
   - Ensures the satisfactory completion of all assigned work
3. **Project Communication**
   - Ensure that consistent cost and schedule updates are provided to all project leads for each project supported.
   - Ensures that business partners are aware of potential cost over/under runs and any project deliverable schedule delays are identified as early in the project planning and implementation process as possible.

4. **Relationship Management**
   - Works closely with senior staff and other technical disciplines within the Department to learn appropriate permitting/licensing and mitigation strategies.
   - Develop and/or review agency or public meeting presentations for projects you are assigned and ensure that the presentation is factually accurate and based on sound scientific principles.
   - Assist the PG&E lead in communications and negotiations on sensitive environmental issues with various stakeholders.

5. **Technical Project Management**
   - Usually as a member of a multidisciplinary project team, help develop scope, schedule, and budget as a technical team member for the cultural or historic work assigned.
   - Work closely with senior staff to provide strategic permitting and licensing guidance to business partners and contractors.
   - Develop cultural study plans to achieve regulatory compliance and cost effectiveness.
   - Work closely with senior staff to manage and provide technical oversight to contractors.
   - Work closely with senior staff to plan and manage implementation of studies and assessments associated with specific cultural or historical issues.
   - Work closely with senior staff to manage studies in support of licenses, permits and compliance.
   - Work closely with senior staff to provide guidance and oversight for the preparation/collection of needed data to support the development of licensing and permitting applications.
   - Work closely with senior staff to provide technical expertise on PG&E projects for responses to agency/NGO comments or requests for data.

6. **Technical Project Performance**
   - Conduct technical work, as required to meet project goals, using the highest standards of scientific investigation and analysis.
   - Implement technical studies; identify/analyze project impacts; and develop/recommend protection and mitigation measures.
   - Prepare technical reports and input for licensing and permitting documents.
   - Work collaboratively with agencies and non-governmental organizations to resolve licensing and permitting issues.
   - Review and comment on environmental documents as requested.

7. **Technical Quality Assurance**
   - Ensures that all technical reports (contractor or self-generated) meet
**ASSOCIATE CULTURAL RESOURCE SPECIALIST (50327910)**

- Provide technical quality assurance for contract work

8. **Cost/ Schedule Management**
   - Manages cost commitments within the project budget
   - Ensures project budgets are estimated and submitted as required by business partners.
   - Provides technical and contract administration oversight for all assigned work
   - Ensures that all schedule and deliverable commitments are met on or before the planned due dates

9. **Contractor Selection**
   - Arranges for services provided by outside cultural resource contractors; develop contract documents, initiate shopping carts in SAP, and manage and provide technical oversight to contractors
   - Helps develop technical scope of work and requests for proposals under direction of senior staff
   - Participates in proposal evaluations and selection of successful bidder
   - Support the company strategic sourcing program and supplier diversity initiatives on all appropriate projects

**Interaction**

External contacts typically involve oversight by more experienced cultural resource specialists and/or project managers and include directing project-related work and contract administration with contractors; and providing information and conducting limited discussions with external stakeholders.

Internal contacts are primarily with Electric Transmission and Distribution, CGT, and Power Generation including O&M clients and project team members, and PG&E internal services organizations.

**Job Qualifications:**

<table>
<thead>
<tr>
<th>Education</th>
<th>Holds a four-year BS/BA degree in Anthropology with emphasis in archaeology and/or cultural resources management with direct application to current job responsibilities or related sciences.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Licenses / Certifications</td>
<td>Valid driver’s license required.</td>
</tr>
<tr>
<td>Experience</td>
<td>2-3 years of relevant industry or resource agency experience (or post-graduate degree).</td>
</tr>
<tr>
<td>Knowledge / Abilities</td>
<td>Able to apply basic cultural resource management and project management principles and theory.</td>
</tr>
</tbody>
</table>

**Technical Knowledge**

Possesses basic-level knowledge of principles related to job responsibilities in applicable technical field.

**Laws, Regulations and Standards**

Possesses basic-level knowledge of cultural and historical protection laws and regulations that pertain to current job responsibilities.
### ASSOCIATE CULTURAL RESOURCE SPECIALIST (50327910)

**Level of Direction Required**
Works on assigned tasks with supervision of methods and progress.

**Complexity of Assignments**
Assists other professionals, projects teams and department management by developing, compiling and providing technical data.

**Level of Initiative Demonstrated**
Offers new ideas and suggestions for improvements.

**Communication Skills (written and verbal)**
Communicates effectively. Possesses sound basic verbal communication skills; writing is concise, coherent.

**Analytical Skills**
Some experience with analytical tools / approach to problem solving (statistical analysis, geospatial analysis, modeling, etc.)

**Planning and Project Management Skills**
Monitors their own costs to stay within budget. With guidance, exercises appropriate controls on costs.

### JOURNEY CULTURAL RESOURCE SPECIALIST (50227123)

**Summary**
This is a Journey-level Cultural Resource Specialist position that works under the general direction of more senior biologists and/or project managers. The Journey-Level Cultural Resource Specialist is responsible for small-to-moderate size projects consistent with technical background. The Journey-Level Cultural Resource Specialist participates on interdisciplinary teams utilizing intermediate-level knowledge of principles related to job responsibilities, utility operations, PG&E’s environmental management goals and objectives, and business processes. The position is expected to use independent judgment; enhanced verbal and written communication skills and have the ability to work with minimal supervision. The Journey-Level Cultural Resource Specialist possesses an intermediate-level knowledge and understanding of local standards, ordinances, state, and federal laws that pertain to technical job responsibilities and can demonstrate successful management of multiple small to moderate sized Company projects.

In this role, people and other resources are managed indirectly as part of a project team. The Journey-Level Cultural Resource Specialist is responsible for the development and implementation of assigned projects, and may spend a portion of time participating in or directing technical work in the field. The position requires a working knowledge of industry practices, standards, and equipment; Responsibilities may include Privileged and Confidential work. Assignments typically require standard solutions, but may include an increased level of innovation on a periodic basis. Under limited general direction, independently plans work to meet assigned objectives; progress is reviewed periodically for technical accuracy and adequacy in process and upon completion.

**Job Duties:**
Some direction and supervision is required. The need for supervision is expected to decrease with increased time in-grade. Job duties will include but are not limited to:
<table>
<thead>
<tr>
<th>JOURNEY CULTURAL RESOURCE SPECIALIST (50227123)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Safety</strong></td>
</tr>
<tr>
<td>• Performs all work in accordance with PG&amp;E safety goals and practices</td>
</tr>
<tr>
<td>• Completes all required safety training</td>
</tr>
<tr>
<td>• Promotes safety awareness</td>
</tr>
<tr>
<td>• Conducts work in accordance with all safety procedures</td>
</tr>
<tr>
<td><strong>2. Project Planning and Workload Management</strong></td>
</tr>
<tr>
<td>• Ensures that work scope, schedule and cost are accurately defined and approved by the business partner before work proceeds on the project.</td>
</tr>
<tr>
<td>• Actively plan, estimate and manage the cultural or historic work for specific projects</td>
</tr>
<tr>
<td>• Provides timely input to project schedules identifying known or likely requirements for seasonal fieldwork and seasonal work constraints due to environmental issues</td>
</tr>
<tr>
<td>• Plans and schedules all surveys, monitoring and compliance work to meet regulatory requirements</td>
</tr>
<tr>
<td>• Ensures that Project workload (including in-house and contract labor) is tracked and that targets (both schedule and budget) are met.</td>
</tr>
<tr>
<td>• Ensure the proper coordination, staff utilization and satisfactory completion of all assigned work.</td>
</tr>
<tr>
<td><strong>3. Project Communication</strong></td>
</tr>
<tr>
<td>• Ensure that consistent cost and schedule updates are provided to project leads for each project supported</td>
</tr>
<tr>
<td>• Ensure that business partners are aware of potential cost over/under runs and any project deliverable schedule delays are identified as early in the project planning and implementation process as possible</td>
</tr>
<tr>
<td><strong>4. Relationship Management</strong></td>
</tr>
<tr>
<td>• Works closely with senior staff and other technical disciplines to develop appropriate permitting/licensing and mitigation strategies</td>
</tr>
<tr>
<td>• Represent the company in agency/stakeholder interactions and negotiations to best meet the goals and objectives of PG&amp;E while maintaining compliance with all state and federal guidelines and laws</td>
</tr>
<tr>
<td>• Develops and/or reviews agency or public meeting presentations for projects you are assigned and ensure that the presentation is factually accurate and based on sound scientific principles</td>
</tr>
<tr>
<td>• Assists in project communications and negotiations with regulatory agencies and other stakeholders on sensitive biological issues</td>
</tr>
<tr>
<td><strong>5. Technical Project Management</strong></td>
</tr>
<tr>
<td>• As a member of a multidisciplinary project team, develops scope, schedule, and budget as the technical lead for the biological work component</td>
</tr>
<tr>
<td>• Assists in development of strategic permitting and licensing guidance for business partners and contractors</td>
</tr>
<tr>
<td>• Develops project cultural resource study plans and evaluate for cost effectiveness</td>
</tr>
<tr>
<td>• Manages and provides technical oversight to contractors</td>
</tr>
<tr>
<td>• Plans and manages project studies and assessments associated with specific cultural or historic work scopes associated with licensing and permitting projects</td>
</tr>
</tbody>
</table>
### JOURNEY CULTURAL RESOURCE SPECIALIST (50227123)

- Helps develop technical responses to agency/NGO comments or requests for data

#### 6. Technical Project Performance
- Conduct technical work, as required to meet project goals, using the highest standards of scientific investigation and analysis.
- Participate in design and implementation of technical studies; identify/analyze project impacts; and develop/recommend protection and mitigation measures.
- Prepare or provide oversight to preparation of technical reports and input for licensing and permitting documents.
- Work collaboratively with agencies and non-governmental organizations to resolve licensing and permitting issues.
- Review and comment on environmental documents as requested.

#### 7. Technical Quality Assurance
- Ensures that all technical work (contractor or self-generated) meets the current standards required by regulatory agencies.
- Supports technical consistency across lines of business, unit, and multiple projects.

#### 8. Cost/ Schedule Management
- Manages cost commitments within the project budget.
- Ensures project budgets are estimated and submitted as required by business partners.
- Provides technical and administrative oversight for contracted work.
- Ensures that all schedule and deliverable commitments are met on or before the planned due dates.

#### 9. Contractor Selection
- Develops technical scope of work and requests for proposals.
- Conducts proposal evaluations and select successful bidder.
- Supports company strategic sourcing and diversity supplier initiatives.

<table>
<thead>
<tr>
<th>Interaction</th>
<th>External contacts include directing contractors and other vendors, responding to third-party information requests (for example, government, regulatory or community groups), and participating when requested in presentations before or negotiations with third-party groups. Internal interactions involve working with staff from other work units within the department as well as staff from all other lines of business throughout the company. May also provide guidance and/or oversight of work of less experienced cultural resource specialists.</th>
</tr>
</thead>
</table>

**Job Qualifications:**

<table>
<thead>
<tr>
<th>Education</th>
<th>Holds a four-year BS/BA degree in Anthropology with emphasis in archaeology and/or cultural resources management with direct application to current job responsibilities.</th>
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<thead>
<tr>
<th>Licenses / Certifications</th>
<th>Valid driver’s license is required.</th>
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</table>

<p>| Knowledge / Abilities | Has demonstrated knowledge of science, basic project management, and company business processes sufficient to warrant assignment of moderately complex project scopes and implementation plans. |</p>
<table>
<thead>
<tr>
<th><strong>JOURNEY CULTURAL RESOURCE SPECIALIST (50227123)</strong></th>
</tr>
</thead>
</table>
| **Technical Knowledge**  
Possesses intermediate-level knowledge of principles related to job responsibilities. |
| **Laws, Regulations and Standards**  
Possesses an intermediate-level knowledge and understanding of local standards and ordinances, as well as state, and federal laws that pertain to cultural and historic resources. |
| **Level of Direction Required**  
Works independently on routine job tasks or small to medium sized projects and as a member of a team on larger projects with some supervision and guidance. Effectively manages small projects or tasks (scope, schedule and budget). Effectively completes multiple small projects/tasks, concurrently. |
| **Complexity of Assignments**  
Effectively manages small to medium sized projects or tasks (scope, schedule and budget). Effectively manages multiple assignments concurrently. Prepares reports and provides recommendations to business partners based on an analytical approach. |
| **Level of Initiative Demonstrated**  
Looks for opportunities to improve processes and procedures to achieve greater efficiency and cost savings. Exercises creative thinking in both technical and administrative job roles. Demonstrates awareness of and focus on departmental and company goals and initiatives. |
| **Communication Skills (written and verbal)**  
Demonstrates strong technical writing skills. Authors letters, reports or other submittals regarding small to moderate scale projects. May play a supporting role during some agency consultations. Utilizes appropriate and effective presentation skills/tools with both internal and external groups. Will serve as leader at group meetings. |
| **Analytical Skills**  
Uses an analytical approach to problem solving. Uses independent judgment in applying appropriate principles and techniques in a broad range of situations to arrive at optimum solutions from the standpoint of practicality and cost-effectiveness. |
| **Planning and Project Management Skills**  
Monitors and identifies potential variances from assigned budgets. Exercises appropriate controls on costs. Defines small project or scopes of work and adequately addresses resources when planning projects. Manages contractors and/or develops small-mid scale Project contracts. Contributes in the development of the project budget.  
Possesses the ability to define project scope and adequately addresses resources when planning projects. |
| Manages and controls assigned budgets within a portfolio area. |
| **Summary** | This is a senior-level Cultural Resource Specialist who has demonstrated proficiency of the Journey Cultural Resource Specialist job duties. In this role, people and other resources are managed directly as a part of a project team. This position will typically manage large project and complex task-level work consistent with technical background, and will often lead aspects of the development and implementation of assigned projects.

The senior-level Cultural Resource Specialist takes a lead role for project work assignments across lines of business and manages large contracts with complex multi-task deliverables. Projects managed generally have multi-year duration, require significant risk management, and may include formal partnering agreements with outside firms. A Senior Level may direct an entire work contribution (multidisciplinary effort) for a larger project, with appropriate technical oversight by other specialists. The position requires an extensive knowledge of the cultural and historic resource issues associated with utility projects and requires the individual to leverage experience gained and client relationships to help meet PG&E goals and objectives. The senior-level Cultural Resource Specialist demonstrates excellent project management skills, a growing reputation as a subject matter expert and problem solver, extensive contract management skills, excellent verbal and written communication skills, and sound judgment to independently resolve complex problems with only general direction. The position supports others on programmatic solutions outside of assigned projects, process improvements, regulatory relations, contracting strategies, and very large and/or complex projects. Assignments regularly provide an opportunity for creative or non-standard approaches. Work may be reviewed upon completion; solutions may provide an opportunity for future creative/non-standard approaches. Responsibilities may include privileged and confidential work. |
| **Job Duties:** | Performs functions of the Journey level Cultural Resource Specialist, but for more complex, larger budget, and higher profile projects. Jobs duties will include but are not limited to:

1. **Safety**
   - Performs all work in accordance with PG&E safety goals and practices:
     - Completes all required safety training
     - Promotes safety awareness

2. **Project Planning and Workload Management**
   - For all applicable projects ensures that work scope, schedule and cost are accurately defined and approved by the business partner before work proceeds on the project.
   - Provides timely input to project schedules identifying known or likely requirements for seasonal cultural or historic fieldwork and seasonal work constraints due to environmental issues
   - Plans scope, schedules, and budgets for all surveys, monitoring and compliance work to meet regulatory requirements
   - Ensures that project workload (including in-house and contract labor) is tracked and specific classification level targets are met.
   - Ensure the proper coordination, staff utilization and satisfactory completion of all assigned work |
3. **Project Communication**
   - Ensure that consistent cost and schedule are provided to all team leads for each project supported.
   - Ensures that business partners are aware of potential cost over/under runs and that potential schedule delays are identified as early in the project planning and implementation process as possible.

4. **Relationship Management**
   - Represents the company in agency/stakeholder interactions and negotiations to best meet the goals and objectives of PG&E while maintaining compliance with all state and federal guidelines and laws.
   - Works closely with business partners and other specialists within the department to develop appropriate permitting/licensing and mitigation strategies.
   - Develops and/or reviews agency or public meeting presentations for projects you are assigned and ensure that the presentation is factually accurate and based on sound scientific principles.
   - When requested assists in communications and negotiations on sensitive cultural or historic issues with stakeholders.

5. **Technical Project Management**
   - As a member of a multidisciplinary project team, develops scope, schedule, and budget as the technical lead for cultural or historical work assignments.
   - Provides strategic permitting and licensing guidance to business partners, other technical staff in the department and contractors.
   - Develops project cultural/historical study plans and evaluates for cost effectiveness.
   - Manages and provides technical oversight to contractors.
   - Plans and manages implementation of studies and assessments associated with specific cultural/historical work scopes associated with licensing and permitting.
   - Manage studies in support of licenses, permits and compliance.
   - Provide guidance and oversight for the preparation/collection of needed data to support the development of licensing and permitting applications.
   - Provides technical expertise for responses to agency/NGO comments or requests for data.

6. **Technical Project Performance**
   - Conduct or direct technical work, as required to meet project goals, using the highest standards of scientific investigation and analysis.
   - Design or collaborate with contract scientists in design of technical studies; identify/analyze project impacts; and develop/recommend protection and mitigation measures.
   - Prepare or oversee preparation of technical reports and input for licensing and permitting documents.
   - Work collaboratively with agencies and non-governmental organizations to resolve licensing and permitting issues.
   - Review and comment on regulatory agency or third-party environmental documents as requested.

7. **Technical Quality Assurance**
   - Ensures that all technical work (contractor or self-generated) meets
<table>
<thead>
<tr>
<th><strong>Senior Cultural Resource Specialist (50227124)</strong></th>
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<tbody>
<tr>
<td>the standards required by the regulatory agency guidelines, and as may apply utility standard practices, policies and guidelines concerning cultural/historical resources protection</td>
</tr>
<tr>
<td>• Provide technical quality assurance for contract work</td>
</tr>
<tr>
<td>• Supports a consistent adherence to technical and professional standards in the performance of all biological work</td>
</tr>
</tbody>
</table>

### 8. Cost/Schedule Management

- Manages cost commitments within the project budget
- Ensures project budgets are estimated and submitted as required by business partners.
- Provides technical and contract administration oversight for all assigned work
- Ensures that all schedule and deliverable commitments are met on or before the planned due dates

### 9. Contractor Selection

- Develops technical scope of work and submit requests for proposals
- Conduct proposal evaluations and selection of successful bidder, or may initiate a sole source award with written justification
- Supports company strategic sourcing and diversity supplier initiatives

### Interaction

External contacts involve state and federal agencies, non-governmental organizations and community groups; also specific industry and professional groups. Internal contacts include company staff from all lines of business and PG&E internal services organizations. The Senior Cultural Resource Specialist may be called upon to discuss and report progress, exchange and coordinate information, manage meetings and provide appropriate expert opinion. Provides technical guidance and/or oversight of work to less experienced team members.

### Job Qualifications:

<table>
<thead>
<tr>
<th><strong>Education</strong></th>
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<tbody>
<tr>
<td>Holds a minimum four-year BS/BA degree in Anthropology with emphasis in archaeology and/or cultural resources management with direct application to current job responsibilities.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Licenses/Certifications</strong></th>
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<tbody>
<tr>
<td>Valid driver’s license required.</td>
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<table>
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<tr>
<th><strong>Experience</strong></th>
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<tbody>
<tr>
<td>Mastery of the Journey level Cultural Resource Specialist job duties and demonstrated knowledge, leadership, and ability to perform the basic duties of the Senior level Cultural Resource Specialist.</td>
</tr>
<tr>
<td>8-10 years relevant professional work experience.</td>
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</table>

<table>
<thead>
<tr>
<th><strong>Knowledge/Abilities</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Technical Knowledge</strong></td>
</tr>
<tr>
<td>Applies extensive knowledge of cultural and historical resources, project management, and business processes to independently resolve complex problems. This expertise is recognized inside and outside the department.</td>
</tr>
</tbody>
</table>

**Laws, Regulations and Standards**
Possesses thorough knowledge of laws, utility standard practices and procedural protocols pertaining to terrestrial ecology and the utility industry.
<table>
<thead>
<tr>
<th>SENIOR CULTURAL RESOURCE SPECIALIST (50227124)</th>
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<tbody>
<tr>
<td><strong>Level of Direction Required</strong></td>
</tr>
<tr>
<td>Works independently with only general direction. Can serve as team leader. Assignments are of broad scope and complexity. Assignments require integration of information from a variety of sources.</td>
</tr>
<tr>
<td><strong>Complexity of Assignments</strong></td>
</tr>
<tr>
<td>Contributes significantly in developing company procedures, specifications and guidelines. Maintains a lead technical role in regulatory agency communications and negotiations.</td>
</tr>
<tr>
<td><strong>Level of Initiative Demonstrated</strong></td>
</tr>
<tr>
<td>Takes ownership of complex problems and seeks to develop solutions with broad applicability.</td>
</tr>
<tr>
<td>Strives at all times to improve processes and procedures by identifying and evaluating new methods or techniques to achieve company goals.</td>
</tr>
<tr>
<td><strong>Business Partners</strong></td>
</tr>
<tr>
<td>Recognizes where business process improvements are needed and develops and communicates cost-effective solutions beneficial to business partner organizations.</td>
</tr>
<tr>
<td><strong>Communication and Agency Consultation Skills</strong></td>
</tr>
<tr>
<td>Prepares letters, reports and other submittals to outside entities regarding moderate to large scale projects. May be called upon to make presentations within and outside PG&amp;E. May be asked to negotiate and/or testify on behalf of the Company.</td>
</tr>
<tr>
<td><strong>Analytical Skills</strong></td>
</tr>
<tr>
<td>Uses an analytical approach to problem solving, and demonstrates good judgment in arriving at decisions and recommendations. Uses independent judgment in applying appropriate principles and techniques in a broad range of situations to arrive at optimum solutions from the standpoint of practicality and cost-effectiveness.</td>
</tr>
<tr>
<td><strong>Leadership Skills</strong></td>
</tr>
<tr>
<td>Provides leadership, direction and assistance as appropriate to other I employees and teams. Acts as a mentor to Associate and Journey-level employees and educates PG&amp;E personnel on environmental and biological issues.</td>
</tr>
<tr>
<td><strong>Planning and Project Management Skills</strong></td>
</tr>
<tr>
<td>Will complete at least one post graduate course or one PG&amp;E instructor-led course in project management.</td>
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<thead>
<tr>
<th>SENIOR CONSULTING SCIENTIST CULTURAL RESOURCE (50327911)</th>
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<tbody>
<tr>
<td><strong>Summary</strong></td>
</tr>
<tr>
<td>This position is responsible for planning, directing, and coordinating activities in the cultural and historic resources field, including contract management and research and development activities to support utility goals and objectives. This position will routinely confer and interact with other scientists, engineers, regulators and others to plan and review complex projects and broad utility programs, and to provide expert technical advice and direction. This position will prepare and administer project and program scope, schedule, and</td>
</tr>
</tbody>
</table>

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** SENIOR CONSULTING SCIENTIST CULTURAL RESOURCE (50327911) **

<table>
<thead>
<tr>
<th>Job Duties:</th>
<th>Job duties include all the duties of Senior Cultural Resource Specialist and in addition:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Safety</strong></td>
<td>Perform all work in accordance with PG&amp;E safety goals and practices:</td>
</tr>
<tr>
<td></td>
<td>- Complete all required safety training</td>
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<tr>
<td></td>
<td>- Promote safety awareness</td>
</tr>
<tr>
<td><strong>2. Project Planning and Workload Management</strong></td>
<td>Ensure that work scope, schedule and cost are accurately defined and approved by the business partner before work proceeds on individual projects.</td>
</tr>
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<td>Plan and schedule all studies to ensure that project specific regulatory requirements are met.</td>
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<td></td>
<td>Ensure that strategically managed labor is tracked and reported monthly.</td>
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<td></td>
<td>Ensure the proper coordination, staff utilization and satisfactory completion of all assigned work.</td>
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<td></td>
<td>Senior Consulting Scientists are expected to manage a cultural resource based program or segment of a business partner’s workload (by region or type of work) on behalf of the department. The Senior Consulting Scientist will serve as a program manager for that segment of the workload providing direct oversight for the management of the program.</td>
</tr>
<tr>
<td><strong>3. Relationship Management</strong></td>
<td>Represent the company in agency/stakeholder interactions and negotiations to best meet the goals and objectives of PG&amp;E including full compliance with both the letter and intent of all state and federal natural resource laws</td>
</tr>
<tr>
<td></td>
<td>Develop and/or review agency or public meeting presentations for</td>
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</table>
assigned projects and ensure that the presentation is factual and based on sound scientific principles

4. **Project Management**
   - As the technical subject matter expert, and as a member of a multidisciplinary project team, develop scope, schedule, and budget for the cultural or historic component of all assigned licensing and permitting work; obtain business partner approvals before work begins.
   - Ensure that cost and schedule updates for assigned projects and programs are provided to Business Partners at an agreed upon interval.
   - Inform business partners of potential cost over/under runs and identify any potential schedule delays as early as possible.
   - Provide strategic permitting and licensing guidance to business partners and contractors.
   - Develop specific project study plans for cost effectiveness.
   - Plan and manage implementation of studies and assessments associated with specific cultural or historic work scopes in support of license compliance, permit compliance and as may be necessary for project planning; ensure these meet current technical standards.
   - Provide technical expertise on PG&E projects for responses to agency/NGO comments or requests for data.
   - Manage and provide technical oversight to contractors.
   - Responsible for cultural resource based interaction with regulatory agencies and for providing oversight of other project participants that may interact with these agencies on natural resource issues.
   - Ensure a consistent approach by project teams, one that is rooted in current regulatory law and policies and that is also consistent with PG&E’s goal of being a leader in the environmental arena.
   - Provide technical and contract administration oversight for assigned natural resource workload.
   - Ensure that all schedule commitments and key program deliverables are met on or before the planned due dates.
   - Develop contractor technical scope of work and submit requests for proposals.
   - Conduct proposal evaluations and select successful bidder.
   - Ensure that company strategic sourcing program is implemented on all appropriate projects.
   - Ensure that diversity spend requirements and practices are followed.
   - Functions as the lead point-of-contact on natural resource issues for business partners.
   - Contributes to the development of capital and/or expense budgets.
   - Provides effective management of project teams in meeting established goals.
   - May apply formal project management techniques for major projects and programs.

<p>| Interaction | When applicable, establishes and maintains good relations with counterparts and higher level representatives in third party organizations, e.g., governmental, regulatory, business partner or community entities, using skilled negotiation, tact and diplomacy. Internal contacts are primarily with Electric Transmission and Distribution, CGT, and Power Generation. |</p>
<table>
<thead>
<tr>
<th>SENIOR CONSULTING SCIENTIST CULTURAL RESOURCE (50327911)</th>
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<tbody>
<tr>
<td>personnel, Law Department, PG&amp;E internal services organization, and company management at the officer, director and manager level. Serves as the most senior level technical expert on the team. May partner with internal or external stakeholders to solve problems or explore alternative solutions. Often is a technical coach for others.</td>
</tr>
</tbody>
</table>

**Job Qualifications:**

**Education**
Advanced degree (MA, MS, or PhD) in Archeology, Anthropology with emphasis in archaeology and/or cultural resources management, or related sciences.

**Licenses / Certifications**
May hold current professional registration with direct application to current job responsibilities (e.g. Professional Archeologist certification).
Valid driver’s license required.

**Experience**
15 + years relevant experience (or less if employee consistently demonstrates consulting level performance and has a minimum of 5 years as a Senior). Experience as technical lead on multiple large and complex Company projects that are “high profile” in nature and carry political or other risks for the Company.

**Knowledge / Abilities / Skills**
1. **Additional Technical Knowledge**
Demonstrates a significant depth of experience both within and outside of PG&E as a leader/expert in one or more technical disciplines related to job responsibilities.

2. **Laws, Regulations and Standards**
Demonstrates a significant depth of experience within PG&E as well as outside the company as an expert on the application of laws, regulations, or standards to meet Company requirements.

3. **Level of Direction Required**
Works independently with only limited oversight in most assignments provided by Environmental Services management

4. **Complexity of Assignments**
Routinely requested to manage programs of high visibility and high potential liability and exposure to the company. Performs assignments of broad scope and high complexity which require integration of information from a variety of sources. Routinely applies extensive knowledge of technical principles, OM&C practices and/or regulatory requirements to resolve complex problems.

5. **Level of Initiative**
Demonstrated Seeks opportunities to create state of the art solutions to address emerging company issues.

6. **Business Partners**
Provides superior service to business partners in matters of broad application and high complexity. Provides management of financial resources; management of staff and contractor resources; information organization as part of the program management.

7. **Communication and Agency Consultation Skills**
Prepares or supervises preparation of letters, reports and other submittals for outside entities regarding moderate to large scale projects. May be called
**SENIOR CONSULTING SCIENTIST CULTURAL RESOURCE (50327911)**

upon to make presentations within and outside PG&E. Supports negotiations and/or testifies on behalf of the Company.

May be called upon to author letters, reports or other submittals regarding issues of high sensitivity to outside entities on behalf of PG&E management.

Is frequently called upon to make either verbal or written presentations within and outside PG&E.

8. **Analytical Skills**

Formulates approaches to address critical issues. May provide specialized technical project support in areas requiring specific skills if the skill is in limited supply in the general environmental consulting market place (e.g. modeling, utility remote sensing, and custom computer applications).

Possesses the ability to assess business conditions, problem identification, identifies opportunities, and develops products, programs, and/or services from a multifunctional, cross-process perspective to enhance corporate business positions. Makes decisions that consistently improve company performance.

9. **Leadership Skills**

Desires to act as a role model and mentor for other technical professionals.

**ENVIRONMENTAL SCIENTIST (50327912)**

**Scope**

This is a journey-level position that requires project management and program management skills and duties, and provides technical support for a wide range of issues.

The position requires knowledge of job functions and proficiency in applying project and program management principals; a working knowledge of industry practices, standards, and equipment; ability to develop and implement all aspects of multiple assigned projects; use of independent judgment; enhanced verbal and written communication skills; and ability to work with minimal supervision. Job duties will vary by assignment.

**Job Duties:**

**Safety**

Meet or exceed all safety goals and targets by:

- Completing all required safety training;
- Promoting safety awareness;
- Conducting work in accordance with all safety procedures.

**Program / Project Management**

- Effectively structure and control program/project work; integrate all aspects, ensure that work progresses on schedule and that work meets specification or required standards.
- Recognize established timelines and budget constraints when planning work efforts and scheduling resources.
- Monitor timelines, milestones, and resource usage (actual vs. plan); address scope changes by adjusting work efforts and plans.
- Ensure that supervisor and LOB clients are notified of any deviations to cost, deliverables, or schedule commitments, and establish regular checkpoint controls for timeliness and accuracy of deliverables.
- Oversee contractor work and function as single point of contact for business partners, agencies, and contractors as required.
### Consulting / Expertise
- Participate in continuous learning opportunities to enhance technical and operational expertise (e.g., attending conferences, partnering with field operations, providing vacation relief, completing additional education, etc.).
- Monitor professional and technical advancements and adjust techniques to incorporate best practices with management input and guidance.
- Develop and deliver high-quality training and training materials in responsible areas of knowledge.
- Develop, write, revise, and improve procedures and processes to implement regulatory requirements.

### Compliance/Regulatory Support
As required:
- Monitor changes to existing and pending laws and regulations, by using on-line tools and communications from government, agencies, and industry associations.
- Apply principles and processes of laws, rules, regulations, and codes; identify and resolve compliance issues.
- Communicate potential impacts (financial and operational) of pending regulation to affected LOBs, through ES leadership team.
- Respond to information requests from LOB clients, industry associations, and public agencies (e.g., pesticide programs, interpreting spill data, transformer PCB composition data, water quality data, natural gas composition, etc.).
- Input and maintain all compliance commitments in assigned database with appropriate task notifications and escalations. Ensure compliance through record-keeping and accurate and concise documentation.
- Lead efforts to identify and resolve compliance issues; implement corrective actions or preventive controls for cross-functional LOB issues.
- Ensure timely completion of required environmental training and all assignments.
- Lead root cause analyses or process improvement initiatives to improve compliance.
- Prepare and/or confirm accuracy of technical data, specifications, calculations, inventories, and/or reports in relation to submittals required by others (agencies, contractors, LOB clients, etc.).
- Represent PG&E at client meetings, and occasionally contact agencies on PG&E’s behalf.
- Work closely with LOB clients to develop appropriate planning/permitting/mitigation strategies.
- Develop and provide data for internal or external reporting purposes; ensure that the data is accurate and/or based on sound business processes, and assumptions are clearly documented.
- Implement action plans to address control weaknesses or process improvement opportunities.
- Lead audits, reviews, assessments, and related corrective actions.

### Financial Management
As required:
- Monitor that charges for assigned projects and programs, including contractor invoices, are timely, within approved contract limits, and do not exceed approved budget for the work.
- Process invoices in accordance with all applicable Accounts Payable guidelines.
- Provide accurate forecasts for assigned projects and programs in a timely manner; supervisor informed well in advance if costs may exceed or significantly under run budget.
- Meet with stakeholders and client groups to review costs for assigned
| Quality Assurance | • Organize multiple assignments, sometimes of a complex nature or involving competing priorities, to produce work products that are accurate, thorough, and on time.  
• Collect and analyze operational/field data using risk analysis to determine degree of potential operational or economic impact and/or risk to PG&E and make recommendations to address such impacts.  
• Coordinate data collection from various internal and external sources, review data for accuracy, and revise as needed.  
• Ensure that work procedures are well documented, roles and responsibilities are clearly defined and understood, and measures and controls are established. |
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<tbody>
<tr>
<td>Interaction</td>
<td>External interaction primarily includes directing project-related work and contract administration with contractors and vendors; also includes providing information, conducting limited discussions, and obtaining approvals from regulatory agencies. Internal contacts primarily are with business partners, colleagues, and the environmental leadership team. Tasks include directing project-related work, discussing and reporting progress, exchanging and coordinating information, managing meetings and providing appropriate documentation. May partner with internal or external stakeholders to solve problems or explore alternative solutions.</td>
</tr>
</tbody>
</table>
| Knowledge/Abilities | • Possess comprehensive knowledge of and share the most current information, techniques, practices, laws, and regulations of the job or occupational field.  
• Possess familiarity with the business, its environment, and key issues and trends including emerging best practices and technology; familiar with industry language and terminology.  
• Demonstrate skill in determining how money will be spent to get the work done, and accounting for expenditures appropriately. |
| Job Qualifications: |  |
| Education | • BS or BA degree in an environmental discipline, sciences, or engineering (required).  
• MS in environmental discipline, sciences, engineering, or MBA (desired). |
| Licenses/Training/Certifications | Required:  
• Valid driver’s license  
• Current California Professional Engineer License*  
Desired:  
• Program management training (e.g., Project Management Professional (PMP) certification)  
• ISO 14001 management systems training  
• Registered environmental assessor/Professional auditor training  
• Six Sigma and/or Lean training  
• Certified Hazardous Materials Manager (CHMM)  
• 40-Hr OSHA/HAZWOPER Training |
| Experience | Demonstrated leadership, knowledge, and ability to perform assigned job duties. Meets specific technical requirements gained through a minimum of four years of cumulative experience in a relevant environmental field; a MS, MBA or higher degree may substitute for one year of experience. |

*Required for the Environmental Engineer classification (not applicable to Environmental Scientist position).
### SENIOR ENVIRONMENTAL SCIENTIST (50327913)

**Scope**

This position is responsible for leading, as assigned, project management, program management, and technical guidance support for a wide range of complex issues and multiple large projects and system improvements. Project duration is generally multi-year and requires significant risk management.

The position requires project management skills; contract management skills; program management skills; excellent verbal and written communication skills; strong presentation skills; and sound judgment to independently resolve complex problems. Provides guidance, coaching, technical direction, knowledge transfer and assistance to technical employees and teams. Independently plans and conducts work to meet assigned objectives.

**Job Duties:** May perform all of the functions of the journey level Environmental Scientist and in addition:

**Safety**

Promote safety awareness outside of the department.

**Program / Project Management**

- Conduct research, gather data, and draft language to support the development of policies, and programs in their core environmental area(s) including any associated procedures or guidance that is necessary.
- Develop training content and investigate required training tools.
- Implement new strategies and innovative management of projects and programs to support defined business objectives.
- Complete complex projects with little guidance.
- Define critical path of project, anticipating potential obstacles and risks, and overcome them through allocation of resources during planning and management phases.

**Consulting / Expertise**

- Produce long-range plans and analyses to address emerging and ongoing environmental issues.
- Guide LOB clients on scientific, technical, or other professional principles.
- Oversee various projects/programs, some complex in nature, while providing valuable professional and technical expertise.
- Use multiple sources to learn new professional and technical information, ensuring exposure to new techniques and/or practices; maintain knowledge relevant to field of expertise.
- Proactively communicate with various clients to provide expert advice and professional and technical expertise to improve work efforts and impact outcomes.
- Effectively facilitate large project and group meetings, including external participants.
- Collaboratively negotiate with internal and external parties to reach agreements on complex, high profile, difficult and contentious issues.

**Compliance / Regulatory Support**

- Craft and/or propose alternative language, using expertise in environmental sciences and understanding of operational impacts, to pending legislation that requires amending.
- Communicate PG&E’s position regarding proposed regulatory changes to Governmental Relations, CCEEB, USWAG, other lobbying groups, and/or at industry association meetings.
- Serve as subject matter expert to Law Department on pending/existing litigation, claims, audits, reviews, and similar issues.
- Serve as the primary point of contact for environmental regulatory agencies (e.g., responds to information requests, conducts negotiations, shares disclosures, drafts dispute resolutions, prepares and submits reports and plans, obtains permits, etc.) that have impacts on operations that cross multiple geographic areas and/or cross multiple LOBs.
- Review compliance commitments of work group to show that they have been captured and set up properly in the appropriate database; provide...
compliance training to others in work group as needed.

- Frequently represent PG&E at agency meetings; instrumental in advocating for new/revised regulatory changes on PG&E’s behalf.
- Recommend and implement corrective/preventive procedures to improve compliance performance.

| Financial Management | As required:
|----------------------|---------------------------------------------------------------
|                      | • Develop and monitor project-specific metrics and provide regular updates to clients and environmental leadership team. |
|                      | • Meet expenditure guidelines and be accountable for financial decisions made. |
|                      | • Break complex issues into appropriate parts in order to understand the issues at hand as well as the needs of the organization in terms of expenditures. |
|                      | • Maintain contact with leaders to ensure progress of issues/queries and address expenditure concerns adequately. |
|                      | • Identify common problems and escalate issues to the next level after attempting to solve issues. |
|                      | • Link financial decisions to overall business objectives and financial impact on clients. |

| Quality Assurance | • Monitor the progress and performance of self and/or others (e.g., contractors, LOB partners) in relation to assigned workload; proactively communicate with team members to ensure workload is managed effectively and meets client needs. |
|                  | • Identify issues that affect LOB partners and make recommendations to address problems. |

| Interaction | External interaction includes directing project-related work and contract administration with contractors and vendors; also working with regulatory agencies on permits, approvals, changes to regulations and other complex projects and tasks. Internal contacts primarily are with business partners, colleagues, and the environmental leadership team. May present information and projects to senior management and officers. May partner with internal or external stakeholders to solve problems or explore alternative solutions. |

| Knowledge/Abilities | Sound working knowledge of California and Federal laws, regulations, and policies pertaining to environmental disciplines. |

**Job Qualifications:**

| Education | • BS or BA degree in an environmental discipline, sciences, or engineering (required). |
|           | • MS in environmental discipline, sciences, engineering, or MBA (desired). |

| Licenses/Training/Certifications | Required: |
|----------------------------------|---------------------------------------------------------------
|                                  | • Valid driver’s license |
|                                  | • Current California Professional Engineer license* |
|                                  | Desired: |
|                                  | • Program management training (e.g., Project Management Professional (PMP) certification) |
|                                  | • ISO 14001 management systems training |
|                                  | • Registered environmental assessor/Professional auditor training |
|                                  | • Six Sigma and/or Lean training |
|                                  | • Certified Hazardous Materials Manager (CHMM) |
|                                  | • 40 Hr. OSHA HAZWOPER Training |

| Experience | Meet specific technical requirements gained through a minimum of eight years of cumulative experience in a relevant environmental field. |

*Required for the Environmental Engineer classification (not applicable to Environmental Scientist position).
<table>
<thead>
<tr>
<th><strong>Senior Consulting Environmental Scientist (50327914)</strong></th>
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<tbody>
<tr>
<td><strong>Scope</strong></td>
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<tr>
<td>This position requires mastery of the senior-level Environmental Scientist job duties and is routinely requested to lead multiple complex, high risk, or highly contentious regulatory projects.</td>
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</table>

This position is a widely recognized expert within the company and with external partners and stakeholders; is requested to apply expert judgment and extensive knowledge of the utility industry to research and develop new/unique solutions; develops and applies extensive risk management and programmatic approaches for high risk and/or system-wide issues; and/or applies extensive project management and contracting knowledge and negotiation skills to resolve complex challenges; and/or negotiates and resolves broad or complex settlement and license agreements. Provides leadership, coaching and development of less experienced staff. Provides high-level technical briefings, advice, and recommendations to upper management.

**Job Duties:** May perform all of the functions of the senior level Environmental Scientist and in addition:

**Safety**
- Promote safety awareness outside of the department, and with external parties.

**Program / Project Management**
- Demonstrate expert-level project management skills, including stakeholder involvement, contract and resource management; judgment in applying and adapting traditional techniques; development of strategic and tactical risk management strategies and effective metrics; increased focus on long-term planning and multiple project execution and complex economic analyses.
- Exemplify ability to lead multiple large-scale, complex projects or programs; provide resolution of technical and contractual issues on high profile, or highly contentious projects, with very limited supervision.

**Consulting / Expertise**
- Maintain in-depth knowledge of industry trends and elevate professional and technical expertise.
- Build working relationships with industry experts; regarded as a reliable and credible expert in terms of industry knowledge.
- Build consensus around complex and controversial project and technical issues and successfully persuades others to act on commitments.
- Develop, maintain, and nurture constructive relationships with individuals and teams in the face of adversity and effectively leverage relationships strategically to achieve more effective outcomes.
- Demonstrated expert-level facilitation skills, including presentation of clear, concise, and well-reasoned positions on complex issues for desired ideas and proposals.

**Compliance / Regulatory Support**
- Develop and implement regulatory strategic and tactical strategies; expert-level ability to craft effective correspondence, fillings, applications, agreements, and proposed license conditions.
- Understand and interpret regulations and requirements and develop and implement effective strategies for desired results; advocate company positions in industry, regulatory, and legislative matters.
- Lead root cause analyses or process improvement initiatives to improve compliance.
- Create and implement tools and processes that support cost-effective methods of achieving compliance and driving compliance improvement.
- Possesses track record of successful leadership of technical and/or regulatory endeavors which have yielded positive outcomes for the company.
Financial Management

As required:
- Monitor metrics and results for work group and provide tools and mentoring to others to ensure quality and consistency.
- Recommend financial resource utilization improvements to increase shareholder value for the organization.
- Organize plans to ensure financial resources best meet customer needs and enterprise goals.
- Recommend cost improvements initiatives to management prior to expenditure concerns evolving.
- Proactively identify potential areas that may cause future problems and addresses concerns with action plans and sound strategies.
- Assess impact of new expenditures and their effects on the bottom line and manage accordingly.
- Solve problems and avoid risks in financial resource management, only escalating results and risks with mitigating circumstances.

Quality Assurance

- Improve service levels and efficiency of assigned tasks and activities for multiple teams, departments, or organizations.
- Develop and establish new procedures enhancing utilization of people and other resources.
- Proactively resolve issues that affect image of operations and overall business objectives.

Interaction

Externally, establishes and maintains strong relations with counterparts and higher level representatives in third party organizations (e.g., governmental, regulatory, business partner, or community entities) using negotiation, tact, and diplomacy. Internal contacts are primarily with ES leadership team, project managers and company management at the officer, director, and manager level. Serves as the most senior level technical expert on the team. May partner with internal or external stakeholders to solve problems or explore alternative solutions.

Knowledge/Abilities

Sound working knowledge of local, California, and Federal laws, regulations, and policies pertaining to environmental disciplines.

Job Qualifications:

Education
- BS or BA degree in an environmental discipline, sciences, or engineering (required).
- MS or MA in environmental discipline, sciences, engineering, or MBA (required)

Licenses/Training/Certifications
- Project Management Professional (PMP) certification strongly desired and/or obtained within 2 years.

Experience
Mastery of the senior level job duties and demonstrated knowledge, leadership, and ability to perform Consulting duties. Meets specific knowledge/technical requirements gained through a minimum of 15 years of cumulative experience in relevant environmental field, and/or regulatory project management.

Scope
This is a journey-level position that that works under the general technical direction of more experienced staff or leadership. This position is responsible for providing technical support for a wide range of issues, using an array of software programs and work management systems. Duties may include providing or analyzing technical data or providing general administrative support to others as directed.

Job Duties:
### Safety

Meet or exceed all safety goals and targets by:
- Completing all required safety training;
- Promoting safety awareness;
- Conducting work in accordance with all safety procedures.

### Analytical Functions and Analysis

- Review materials for accuracy and proper formatting prior to distribution.
- Complete data requests and provide results as directed.
- Gather metric data for internal reporting purposes, including but not limited to outstanding tasks due, contract spend, billable hours, and project budget status.
- Run custom reports, process various permit fees, monitor and track permit compliance assignments.
- Provide technical support on various platforms (Visio, MS Project, Word, Excel, PowerPoint, Enviance, SAP).
- Resolve issues of limited scope. Assignments typically require standard solutions and are regularly reviewed by others.
- Follow up on upcoming deliverables and outstanding compliance issues with PG&E employees.

### Compliance/Regulatory Support

- Gather and provide technical data, specifications, calculations, inventories, and/or reports in relation to submittals required by others (agencies, contractors, LOB clients, etc.).
- Ensure that compliance data (electronic or hard-copy format) is easily retrievable and accurately maintained.
- Update electronic media as requested and post information in prescribed locations and formats.
- Ensure timely completion of required training and all assignments.

### Financial Management

Process invoices in a timely manner in accordance with all applicable Accounts Payable guidelines.

### Quality Assurance

Ensure that work procedures are well documented; roles and responsibilities are clearly defined and understood.

### Interaction

External interaction is limited to follow up with contractors and confirmation of receipt with local agencies. Internal contacts primarily are with business partners, colleagues, and the environmental leadership team.

### Knowledge/Abilities

Possess comprehensive knowledge of company-supported software and work management systems.

### Job Qualifications:

#### Education

BS or BA degree from an accredited college or its equivalent in education and experience.

#### Licenses/Training/Certifications

Required:
- Valid driver’s license

#### Experience

Meets specific technical requirements gained through a minimum of three years' of cumulative experience in a relevant field.
for providing technical support for routine projects, which may include providing or analyzing technical data or providing support to assess needs, perform analysis, run reports, pay fees, monitor and track permit compliance assignments, process development technical support, guidance support for work management databases. This position provides technical support for a wide range of issues, using an array of software programs and work management systems.

<table>
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<tr>
<th>Job Duties:</th>
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<tbody>
<tr>
<td><strong>Safety</strong></td>
<td>Meet or exceed all safety goals and targets by:</td>
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<td></td>
<td>• Completing all required safety training;</td>
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<tr>
<td></td>
<td>• Promoting safety awareness;</td>
</tr>
<tr>
<td></td>
<td>• Conducting work in accordance with all safety procedures.</td>
</tr>
<tr>
<td><strong>Analytical Functions and Analysis</strong></td>
<td>May perform all the functions of the journey-level Technical Assistant and in addition:</td>
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<td>• Conduct technical editing of internal guidance documents and external submittals (letters, reports, plans, etc.).</td>
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<td>• Perform research of electronic or hard-copy data and compile results as directed.</td>
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<td>• Generate data sets and perform analytical functions associated with work and resource management tools (SAP and Enviance).</td>
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<td>• Perform analysis and reporting on environmental scorecard, operational, and compliance metrics.</td>
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<td>• Run custom reports, process various permit fees, monitor and track permit compliance assignments.</td>
</tr>
<tr>
<td></td>
<td>• Provide technical support on various platforms (Visio, MS Project, Word, Excel, PowerPoint, Enviance, SAP).</td>
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<td>• Resolve issues of limited scope. Assignments typically require standard solutions and are regularly reviewed by others.</td>
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<td>• Ensure that supervisor and LOB clients are notified of any deviations to cost, deliverables, or schedule commitments, and establish regular checkpoint controls for timeliness and accuracy of deliverables.</td>
</tr>
<tr>
<td><strong>Compliance/Regulatory Support</strong></td>
<td>As required:</td>
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<td>• Input and maintain all compliance commitments in assigned database with appropriate task notifications and escalations.</td>
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<td>• Ensure compliance through record-keeping and accurate and concise documentation.</td>
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<td>• Ensure timely completion of required training and all assignments.</td>
</tr>
<tr>
<td></td>
<td>• Gather and provide technical data, specifications, calculations, inventories, and/or reports in relation to submittals required by others (agencies, contractors, LOB clients, etc.).</td>
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<tr>
<td><strong>Financial Management</strong></td>
<td>Process invoices in a timely manner in accordance with all applicable Accounts Payable guidelines.</td>
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<tr>
<td><strong>Quality Assurance</strong></td>
<td>Ensure that work procedures are well documented, roles and responsibilities are clearly defined and understood, and measures and controls are established.</td>
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<td><strong>Interaction</strong></td>
<td>External interaction is limited to follow up with contractors and confirmation of receipt with local agencies. Internal contacts primarily are with business partners, colleagues, and the environmental leadership team.</td>
</tr>
</tbody>
</table>
### Knowledge/Abilities
| Possess comprehensive knowledge of company-supported software and work management systems. |

### Job Qualifications:

<table>
<thead>
<tr>
<th>Education</th>
<th>BS or BA degree from an accredited college or its equivalent in education and experience.</th>
</tr>
</thead>
</table>
| Licenses/Training/Certifications | Required:  
- Valid driver’s license |
| Experience | Meets specific technical requirements gained through a minimum of 5 years as a Technical Assistant; or 8 years of related experience if hired externally. |

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**REMEDIATION PROJECT MANAGER (50227116)**

### Summary
The Journey-level Remediation Project Manager leads project teams by managing people, contractors and other resources, and is responsible for the development and implementation of assigned projects. Multiple projects of low to moderate complexity are managed simultaneously. The position requires an understanding of industry practices, standards, and regulatory requirements; a commitment to safety and compliance; use of independent judgment; and enhanced communication skills.

### Scope
Work with Environmental Remediation Department (ER) staff and business partners under the supervision of the manager. The scope below applies to all Job Duties.
- Obtain management approval of project plans and changes in scope, cost, and schedule.
- Obtain management approval prior to offering external commitments (e.g. contract, regulatory or third party commitments).
- Work includes Privileged and Confidential activities for the Law Department.

### Job Duties
Perform the following for projects of low to moderate complexity.

#### Remediation Project Management
Work with management, Project Controls Analyst, Budget Analyst, consultants, Public Affairs, Law Department, and other stakeholders on the following:
- Develop project objectives, plans, scope, schedule, budget and other project parameters; obtain approvals from management.
- Establish and lead project team in defining roles and responsibilities. Obtain commitments from team members on their roles and responsibilities.
- Manage project changes. Monitor scope, schedule, and budget using controls (e.g., Primavera, SAP). With management approval, adjust project to accommodate change. Proactively recommend and takes action to direct the analysis and resolution of issues.
- Use project management tools with project team during planning, and implementation (e.g. schedules, other tools).
- Assure implementation of applicable quality standards.
- Plan and lead project meetings.
- Assess project risks and formulate contingency plans.
- Identify variances and implement corrective actions to resolve them.
### Remediation Project Manager (50227116)

- Develop, monitor, and update project budgets and forecasts.
- Maintain project documentation.
- Identify and communicate lessons learned.
- Proactively obtain assistance to ensure project planning and execution is completed in accordance with applicable requirements, including safety and environmental regulations, guidelines and standards.
- May coordinate project management of a group/portfolio of projects.

#### Technical Management
Develop and coordinate development of technical approaches to remediation issues incorporating input from, Law, Public Affairs, and management. Advise internal Company stakeholders on technical approaches.
- Ensure strategies and approaches use sound science, address legal and regulatory requirements, achieve Company business needs, and are cost-effective.
- Review technical documents, ensuring they are accurate, clearly written, complete, and fulfill contract and applicable requirements. Coordinate review by stakeholders and provide comments to author.

#### Contractor Management
Work with Contract Analyst, Sourcing Department, vendors, management, and affected business partners to perform the following.
- Develop requests for proposal, scopes of work, contract work authorizations, contract change orders, field authorizations, and other contract-related documents.
- Review proposals and contract documents to ensure that scope of work is appropriate, costs are reasonable/competitive, and comply with contract terms.
- Score vendor proposals for competitive bids and recommend award of work.
- Follow procurement practices and policies.
- Manage vendor performance to meet contract scope, schedule, budget, deliverables, quality, safety, and supplier diversity requirements. Proactively work with vendor to resolve performance issues to ensure successful project execution.
- Review invoices for accuracy and reasonableness, and work with vendor to resolve questions or discrepancies.
- Provide vendor performance feedback to management and vendors.
- Facilitate contract close-out when work is complete.

#### Management Reporting
- Prepare and provide timely and accurate information for management reports regarding project status and project-related metrics and other topics as requested.
- Prepare and present materials to management for review and approval
- Immediately report safety or compliance incidents to manager.
- May coordinate management reporting for a group/portfolio of projects.

#### Financial Liability Estimating and Reporting
- Work with Budget Analyst, Project Analyst, Portfolio Lead, Corporate Accounting, management, and vendors to prepare quarterly estimates of lifecycle remediation costs in accordance with Company accounting guidelines and department procedures.
**Remediation Project Manager (50227116)**

- Ensure timeliness and accuracy of adjustments, and validity of calculations.
- Prepare and review documents supporting financial liability estimates.
- Follow practices to ensure compliance with financial reporting controls (SOX).
- May oversee financial reporting for a group of remediation projects.

**Coordinate Internal and External Stakeholders**
- Work with internal and external stakeholders to develop project strategies and approaches.
- Work collaboratively with internal and external stakeholders to resolve differences regarding strategies and approaches.
- If a necessary stakeholder is not responsive, seek assistance and escalate to management as appropriate.
- Obtain assistance when needed to ensure project planning and execution are in accordance with department, Company, legal and regulatory requirements.
- Communicate project status to stakeholders.
- Initiate development of communication plans, public participation plans, and others as required. Attend stakeholder meetings for projects.
- Report to manager new third party involvement in a remediation project and coordinate internal stakeholders to plan communications in accordance with department procedures.

**Safety**
- Ensure safe performance of work by doing the following:
  - Understand the safety program and requirements, including the Code of Safe Practices, Utility Operations Standards and Guidelines, and Environmental Remediation Procedures.
  - Resolve unsafe situations, stop unsafe operations; model safe behavior; hold self and others accountable for safe behavior.
  - Proactively identify safe procedures and practices associated with work, and cause them to be integrated into work.
  - Complete required safety training and tailboards.
  - Direct vendor to prepare site specific Health and Safety Plan (HASP). Review HASP and ensure it is provided to PG&E ER EH&S Manager or other appropriate PG&E safety personnel. Communicate PG&E zero incident (safety and compliance) expectations. Ensure HASP is on-site during field work activities. Confirm vendor and PG&E site activity roles and responsibilities are defined prior to start up and are communicated during site activities. Confirm daily (at a minimum) tailboards are performed by appropriate vendor or PG&E staff.
  - Seek assistance and consultation from safety compliance experts.

**Regulatory Compliance**
- Work to obtain approvals from agencies for remediation activities and to obtain a finding of No Further Action or Certificate of Completion.
- Represent PG&E to regulatory agencies and non-governmental organizations.
- Negotiate with regulatory agencies on approaches to remediate and close sites, including clean-up levels based on end-use of the property.
- Develop project plans to address applicable regulatory processes, laws, and regulations.
**Remediation Project Manager (50227116)**

| Identify as part of project plans (e.g. work plans, remedial action plans) the applicable laws, regulations, regulatory processes, and compliance requirements. Obtain input from vendors, management, Company compliance professionals and Law.  
- Perform environmental screening to identify possible natural and cultural resources within or near each project site.  
- Enter and monitor all compliance requirements in Enviance and keep status of compliance requirements current. Goal is 100% compliance.  
- Resolve non-compliance findings and implement corrective actions within specified timeframes.  
- Notify management in accordance with department procedures upon learning of a potential agency inspection, non-compliance finding, or violation.  
- Participate in compliance assessments and audits. |

### Job Qualifications

**Education**

A 4-year Bachelor’s Degree in Geology, Environmental or Civil Engineering, or a related technical discipline from an accredited curriculum in the US or the equivalent.

**Licenses / Certifications**

Required: Current HAZWOPER Certificate, USDOT HazMat Employee (for manifest training), valid driver’s license. Desired – California Professional Geologist or California Professional Engineer license; Certified Hazardous Materials Manager; Certified Industrial Hygienist; Certified Project Manager or equivalent.

**Experience**

Minimum four years of experience as an environmental remediation project manager.

### Knowledge / Abilities

**Laws, Regulations and Standards**

- Understanding of the framework of local, state, and federal laws and regulations and how they pertain to remediation projects (e.g. California Environmental Quality Act, National Environmental Policy Act, Resource Conservation and Reclamation Act, Comprehensive Environmental Response, Compensation and Liability Act, Clean Water Act, Clean Air Act Amendments, Uniform Fire Code, Occupational Safety and Health Act).
- Able to identify agency requirements during project planning and ensure they are fully addressed in projects. Understand agency deliverable requirements and able to facilitate agency review and approvals.
- Able to plan for and run agency meetings for projects of moderate complexity.
- Able to implement and/or oversee work compliant with HAZWOPER and other regulatory requirements routinely applicable to remediation projects.

**Professional Abilities**

- Effectively execute and obtain desired results on small to moderate size/complexity projects with multiple external stakeholders. Manage multiple assignments concurrently.
- Work independently with nominal supervision and guidance, and with a high level of accountability as part of a team.
- Demonstrate initiative in all aspects of job assignments.
- Communicate clearly; can effectively facilitate small group meetings.
<table>
<thead>
<tr>
<th><strong>REMEDIATION PROJECT MANAGER (50227116)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Good writing skills; authors clear documents with few edits necessary.</td>
</tr>
<tr>
<td>• Able to build consensus with diverse external stakeholders and successfully implement agreements.</td>
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<tr>
<td><strong>Remediation Knowledge</strong></td>
</tr>
<tr>
<td>• Working knowledge of site assessment, investigation, risk assessment, remediation practices is sufficient to develop and implement cost-efficient and technically sound approaches.</td>
</tr>
<tr>
<td>• Knowledge of remediation sufficient to estimate life-cycle remediation costs.</td>
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<tr>
<td><strong>Planning and Project Management Skills</strong></td>
</tr>
<tr>
<td>• Able to plan a project for its full life-cycle and run it to completion.</td>
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<tr>
<td>• Able to lead multiple projects concurrently with moderate complexity or size.</td>
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<tr>
<td>• Able to integrate project management tools, practices and principals into execution and routinely use tools during planning and communications.</td>
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<tr>
<td>• Able to independently oversee consultants, suppliers, and construction firms; understands contracting principals; able to constructively resolve contract disputes.</td>
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<tr>
<td>• Able to apply financial and business processes applicable to projects.</td>
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<td>• Able to use an analytical approach to problem solving, and demonstrate good judgment in arriving at decisions and recommendations.</td>
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<tr>
<td>• Proficient computer skills in Microsoft Word, Outlook, Power Point, Excel.</td>
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<tr>
<td>• Proficient with project control tools (e.g., Primavera, MS Project, SAP, Enfos).</td>
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<thead>
<tr>
<th><strong>SENIOR REMEDIATION PROJECT MANAGER (50227117)</strong></th>
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<tbody>
<tr>
<td><strong>Summary</strong> The Senior-level Remediation Project Manager leads project teams by managing people, contractors and other resources, and is responsible for the development and implementation of assigned projects. Multiple projects of moderate to high-complexity are managed simultaneously. The position requires extensive knowledge of remediation and project management practices, standards, and regulatory requirements; a commitment to safety and compliance; use of independent judgment; and enhanced communication skills.</td>
</tr>
<tr>
<td><strong>Scope</strong> Same as Journey-level, except for projects of moderate to high complexity.</td>
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<tr>
<td><strong>Job Duties</strong> Same as Journey-level, except for projects of moderate to high complexity.</td>
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<tr>
<td><strong>Job Qualifications</strong></td>
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<tr>
<td><strong>Education</strong> Journey-level requirements plus the following:</td>
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<tr>
<td>• Desired: MS in engineering, geology, toxicology or related field.</td>
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<tr>
<td><strong>Licenses / Certifications</strong> Journey-level requirements plus the following:</td>
</tr>
<tr>
<td>• Current Certified Project Manager (CPM from Project Management Institute) or equivalent approved by Manager. Senior Remediation Project Managers as of 9/24/09 are exempt from the CPM and professional certification requirements. New employees after 9/24/09 will have two years from hire date to obtain CPM or equivalent.</td>
</tr>
<tr>
<td>• New employees after 9/24/09 will have one of the following: CA</td>
</tr>
</tbody>
</table>
**SENIOR REMEDIATION PROJECT MANAGER (50227117)**

<table>
<thead>
<tr>
<th>Experience</th>
<th>Minimum eight years of experience as an environmental remediation project manager.</th>
</tr>
</thead>
</table>

| Knowledge / Abilities | Laws, Regulations and Standards  
Journey-level requirements plus the following. |
|-----------------------|-----------------------------------------------------------------------------------|
|                       | • Extensive understanding of the framework of local, state, and federal laws and regulations and how they pertain to remediation projects (e.g. California Environmental Quality Act, National Environmental Policy Act, Resource Conservation and Reclamation Act, Comprehensive Environmental Response, Compensation and Liability Act, Clean Water Act, Clean Air Act Amendments, Uniform Fire Code, Occupational Safety and Health Act).  
• Able to plan for and run agency meetings for projects of moderate to high complexity. |

**Professional Abilities**  
Journey-level requirements plus the following.  
• Effectively execute and obtain desired results on moderate to large size/complexity projects with multiple external stakeholders. Manage multiple concurrent projects.  
• Facilitates group meetings. Effective group presentation skills. Able to build consensus with internal and external stakeholders around moderately complex and controversial project issues and successfully persuade others to act on agreements reached.  

**Remediation Knowledge**  
• Extensive knowledge of site assessment, investigation, risk assessment, remediation practices to develop and implement cost-efficient and technically sound approaches.  
• Extensive knowledge of remediation sufficient to estimate life-cycle remediation costs.  

**Planning and Project Management Skills**  
Journey-level requirements plus the following.  
• Able to plan a moderately complex and large project for its full life-cycle and run it to completion.  
• Able to lead multiple projects concurrently with moderate complexity or size.  

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**SENIOR CONSULTING REMEDIATION PROJECT MANAGER (50227118)**

<p>| Summary | The Consulting Remediation Project Manager leads project teams by managing people, contractors and other resources, and is responsible for the development and implementation of assigned projects. Manages projects of high-complexity and large size that are high profile for the Company and community. The position requires expert knowledge of remediation and project management practices, standards, and regulatory requirements; a commitment to safety and compliance; use of independent judgment; and enhanced communication skills. |</p>
<table>
<thead>
<tr>
<th><strong>SENIOR CONSULTING REMEDIATION PROJECT MANAGER (50227118)</strong></th>
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<tbody>
<tr>
<td><strong>Scope</strong></td>
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<tr>
<td><strong>Job Duties</strong></td>
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<tr>
<td><strong>Job Qualifications</strong></td>
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<tr>
<td><strong>Education</strong></td>
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<td></td>
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<tr>
<td><strong>Licenses / Certifications</strong></td>
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<tr>
<td><strong>Experience</strong></td>
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<tr>
<td><strong>Knowledge / Abilities</strong></td>
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**SENIOR CONSULTING REMEDIATION PROJECT MANAGER (50227118)**

- Able to lead multiple projects concurrently, including large and complex project.

**BUDGET ANALYST-ESC (50327908)**

**Summary**

This is a journey level analyst position that provides budget and financial liability forecasting, tracking, and reporting assistance to Project Managers, management, and Budget Analysts–Senior-ESC. This position works with business planners, Project Analysts, Budget Analysts, Corporate Accounting, Law, Regulatory Relations, Tax, and other business partners to assist in ensuring that costs are accurately planned and incurred against appropriate accounts; liabilities are estimated, approved, and reported in accordance with established business controls; long-term costs are incorporated into appropriate rate case proceedings; rate recovery filings/reporting are accurate and timely.

The position provides project/program status and metrics reports to management, and may coordinate and assemble supporting documentation to support testing of key business processes against established controls (e.g., Sarbanes Oxley), and/or test such controls.

The position may also support efforts focused on process improvement of internal controls.

Works independently with direction from management and/or other analysts. Assignments are of moderate scope and complexity. Assignments may require integration of information from a variety of sources.

Improves processes and procedures by identifying and evaluating new methods or techniques to achieve company goals and, where warranted, works with management and others to realize their adoption.

Uses independent judgment in applying appropriate principles and techniques in a moderate range of situations to arrive at optimum solutions from the standpoint of practicality and cost-effectiveness.

Provides leadership, direction and assistance to technical employees and teams.

**Scope**

Supports multiple projects and programs by providing cost and budget reporting and analysis, and financial documentation. Assignments typically require advanced knowledge of company systems and analysis techniques and require periodic direction from project leads and supervisor. Work progress is reviewed occasionally for technical accuracy and adequacy in process and upon completion. May provide guidance and/or oversight of work of less experienced team members. Partners with internal or external stakeholders to solve problems or explore alternative solutions.

Performs assignments of moderate scope and complexity, with limited precedents or standards established, and which require integration of information from a variety of sources. Frequently applies extensive knowledge of financial principles, practices and regulatory requirements within one or
<table>
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<tr>
<th>Job Functions</th>
<th>Budget Forecasting, Tracking, and Reporting:</th>
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<tbody>
<tr>
<td></td>
<td>- Coordinates with Project Managers, Gas Transmission and Distribution, Electric Transmission and Distribution, and Law to forecast three-year budgets on a quarterly basis.</td>
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<td>- Tracks actual costs against budget and reports variances to management and/or Senior Budget Analysts.</td>
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<td>- Ensures that costs are incurred against appropriate accounts by understanding the nature of the work being done vs. the use of various accounts, and monitoring costs in SAP/Business Warehouse. Works with appropriate stakeholders to resolve errors or discrepancies, including Senior Budget Analysts.</td>
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<td>- Ensures that non-PO invoices (agency oversight fees, permits, etc.) are accurate and charges are incurred against appropriate orders.</td>
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<td>- Works with business planners and Senior Budget Analysts in preparing annual budgets.</td>
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<td>- Develops budget reports and provides input on other program/project reports for management (e.g., Blue Book, Green Book, QBR).</td>
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<td>- Works with Senior Budget Analysts to manage controlling orders which may include order creation, order status changes, entry of asset settlement rules, etc., and ensure that team members understand and utilize appropriate project accounting.</td>
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<td>- Ensure that responses to budget and cost requests reflect correct project cost information and that stakeholders are in concurrence.</td>
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<td>- Prepares journal entries when needed and maintains required documentation, with oversight from Senior Budget Analysts and/or management.</td>
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<td>- May prepare goods receipts.</td>
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<td>- Creates, manages, files, and provides necessary documentation to defend decisions, financial reports, and actions taken in the event of future litigation or audits.</td>
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<td>Financial Liability Forecasting, Tracking, and Reporting:</td>
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<tr>
<td></td>
<td>- Coordinates with Senior Budget Analysts, Project Managers, and management to assemble liability adjustments quarterly.</td>
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<td></td>
<td>- Assists in coordinating quarterly review and approval process for liability adjustments with Law Department, Accounting, Project Managers, and management. Resolves and reconciles discrepancies.</td>
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<td>- Prepares and documents supporting liability adjustments in accordance with business controls, and ensures that they are maintained on appropriate shared drives/data bases.</td>
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<td>- Ensures quality by reviewing environmental liability estimates for accuracy and consistency, and works with Senior Budget Analysts, Project Managers, and management to resolve issues.</td>
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<tr>
<td></td>
<td>- Works with Accounting Department and Senior Budget Analysts to ensure that processes, financial documents, and use of project/program orders adhere to accounting standards, and resolves identified discrepancies and open issues.</td>
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<td></td>
<td>- Tracks status of liability adjustments to ensure that they are updated at required intervals.</td>
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<tr>
<td></td>
<td>- Works with management and Senior Budget Analysts to develop and maintain guidance, systems, and controls for financial forecasting, and ensures that processes are followed to ensure compliance with established business controls (e.g., Sarbanes Oxley).</td>
</tr>
</tbody>
</table>
• May provides management and Project Managers with guidance on applying appropriate accounting rules including FASB-5, SOP 96-1, and FIN 47.

Cost Recovery and Regulatory Filings:
• Assists in reporting and compliance with CPUC Decision 94-05-020, Hazardous Substance Mechanism (HSM).
• Assists a team consisting of Law, Accounting, and management to prepare required regulatory filings with State, Federal, or local agencies and CPUC (e.g., HSM report, HSM advice letters).
• Provides guidance on rate making and cost recovery methods and cost recovery issues.
• Assists and/or produces cost reports and provides financial analysis support to Law in litigation matters and 3rd party recoveries and claims.
• Assists management and Senior Budget Analysts in preparing financial information to support rate case filings, and reviews testimony to support witnesses in environmental exhibits.
• Assists Senior Budget Analysts and management and Tax Department to prepare required filings.
• Ensures quality by reviewing work products of self and others.
• Prepares and/or assists in preparing accurate and timely responses to all internal and external accounting/financial data requests related to department project/program work, including GRC/TO/Gas Accord and other filings to the CPUC.

Process Documentation/Process Improvement
• Document processes at management request for management approval
• Lead or participate on teams or alone to improve processes and document them for management approval.

Metrics Reporting
• Works with Project Management Analyst and management to report monthly status on various business performance metrics.
• Creates and maintains methods to track operational metrics.
• Prepares variance reports.
• Forecasts trends in metric performance.

| Interaction | Contacts are primarily with department personnel, but can also include O&M clients, business planners, project team members, Law, Regulatory Relations, Revenue Requirements, and Accounting. Interaction typically includes providing financial information, analysis, advice, and reports; guidance regarding interpretation and applicability of various rate recovery methods or accounting standards; providing or requesting budget and cost forecasts; and verification of accuracy of financial reporting documents. |
| Job Qualifications: | |
| Education | A bachelor’s degree from an accredited college - preferably in economics, accounting, finance, business administration – or an AA degree and demonstrated experience necessary to fulfill the job responsibilities. |
| Knowledge / Abilities | Typically applies extensive knowledge of above job duties, principles and practices in a specific discipline, field or area of expertise to independently resolve complex problems. |
• Advanced computer skills, including expertise with SAP, Business |
BUDGET ANALYST, SENIOR-ESC (50227114)

Summary

This is a senior level analyst position that provides budget and financial liability forecasting, tracking, and reporting assistance to Project Managers and management. This position works with business planners, Project Analysts, Corporate Accounting, Law, Regulatory Relations, Tax, and other business partners to ensure that costs are accurately planned and incurred against appropriate accounts; liabilities are estimated, approved, and reported in accordance with established business controls; long-term costs are incorporated into appropriate rate case proceedings; rate recovery filings/reporting are accurate and timely.

The position provides project/program status and metrics reports to management, and may coordinate and assemble supporting documentation to support testing of key business processes against established controls (e.g., Sarbanes Oxley), and/or test such controls.

The position may also manage, oversee, or support efforts focused on process improvement of internal controls, and participate on Company task forces around institutionalizing such processes Company-wide.

Works independently with only general direction. Can serve as team leader. Assignments are of broad scope and complexity. Assignments require integration of information from a variety of sources.

Strives at all times to improve processes and procedures by identifying and evaluating new methods or techniques to achieve company goals and, where warranted, aggressively works to realize their adoption.
Uses independent judgment in applying appropriate principles and techniques in a broad range of situations to arrive at optimum solutions from the standpoint of practicality and cost-effectiveness.

Provides leadership, direction and assistance to technical employees and teams. Acts as a mentor to Associate and Journey-level employees and educates PG&E personnel on technical issues.

**Scope**

Supports multiple projects and programs by providing cost and budget reporting and analysis, and financial documentation. Assignments typically require expert knowledge of company systems and analysis techniques and require limited direction from project leads and supervisor. Work progress is reviewed infrequently for technical accuracy and adequacy in process and upon completion. Routinely provides guidance and/or oversight of work of less experienced team members. Partners with internal or external stakeholders to solve problems or explore alternative solutions.

Performs assignments of broad scope and high complexity, with few precedents or standards established, and which require integration of information from a variety of sources. Routinely applies extensive knowledge of financial principles, practices and regulatory requirements within one or more areas of expertise to resolve complex problems.

**Job Functions**

**Budget Forecasting, Tracking, and Reporting:**
- Coordinates with Project Managers, Gas Transmission and Distribution, Electric Transmission and Distribution, and Law to forecast three-year budgets on a quarterly basis.
- Tracks actual costs against budget and reports variances to management.
- Ensures that costs are incurred against appropriate accounts by understanding the nature of the work being done vs. the use of various accounts, and monitoring costs in SAP/Business Warehouse. Works with appropriate stakeholders to resolve errors or discrepancies.
- Ensures that non-PO invoices (agency oversight fees, permits, etc.) are accurate and charges are incurred against appropriate orders.
- Works with business planners in preparing annual budgets.
- Develops budget reports and provides input on other program/project reports for management (e.g., Blue Book, Green Book, QBR).
- Manages controlling orders which may include order creation, order status changes, entry of asset settlement rules, etc., and ensure that team members understand and utilize appropriate project accounting.
- Ensure that responses to budget and cost requests reflect correct project cost information and that stakeholders are in concurrence.
- Prepares journal entries when needed and maintains required documentation.
- May prepare goods receipts.
- Creates, manages, files, and provides necessary documentation to defend decisions, financial reports, and actions taken in the event of future litigation or audits.

**Financial Liability Forecasting, Tracking, and Reporting:**
- Coordinates with Project Managers and management to assemble liability adjustments quarterly.
- Coordinates quarterly review and approval process for liability adjustments with Law Department, Accounting, Project Managers, and management.
Resolves and reconciles discrepancies.
- Prepares and documents supporting liability adjustments in accordance with business controls, and ensures that they are maintained on appropriate shared drives/data bases.
- Ensures quality by reviewing environmental liability estimates for accuracy and consistency, and works with Project Managers and management to resolve issues.
- Works with Accounting Department to ensure that processes, financial documents, and use of project/program orders adhere to accounting standards, and resolves identified discrepancies and open issues.
- Tracks status of liability adjustments to ensure that they are updated at required intervals.
- Works with management to develop and maintain guidance, systems, and controls for financial forecasting, and ensures that processes are followed to ensure compliance with established business controls (e.g., Sarbanes Oxley).
- Provides management and Project Managers with guidance on applying appropriate accounting rules including FASB-5, SOP 96-1, and FIN 47.

Cost Recovery and Regulatory Filings:
- Coordinates reporting and compliance with CPUC Decision 94-05-020, Hazardous Substance Mechanism (HSM).
- Leads a team consisting of Law, Accounting, and management to prepare required regulatory filings with State, Federal, or local agencies and CPUC (e.g., HSM report, HSM advice letters).
- Provides guidance on rate making and cost recovery methods and cost recovery issues.
- Produces cost reports and provides financial analysis support to Law in litigation matters and 3rd party recoveries and claims.
- Assists management in preparing financial information to support rate case filings, and reviews testimony to support witnesses in environmental exhibits.
- Coordinates with management and Tax Department to prepare required filings.
- Ensures quality by reviewing work products of self and others.
- Prepare accurate and timely responses to all internal and external accounting/financial data requests related to department project/program work, including GRC/TO/Gas Accord and other filings to the CPUC.

Process Documentation/Process Improvement
- Document processes at management request for management approval
- Lead or participate on teams or alone to improve processes and document them for management approval.

Metrics Reporting
- Works with Project Management Analyst and management to report monthly status on various business performance metrics.
- Creates and maintains methods to track operational metrics.
- Prepares variance reports.
- Forecasts trends in metric performance.

Interaction
- Contacts are primarily with department personnel, but can also include O&M clients, business planners, project team members, Law, Regulatory Relations, Revenue Requirements, and Accounting. Interaction typically includes providing financial information, analysis, advice, and reports; guidance regarding interpretation and applicability of various rate recovery methods or...
accounting standards; providing or requesting budget and cost forecasts; and verification of accuracy of financial reporting documents.

**Job Qualifications:**

**Education**
A bachelor’s degree from an accredited college - preferably in economics, accounting, finance, business administration – or an AA degree and demonstrated experience necessary to fulfill the job responsibilities.

**Knowledge / Abilities**
Typically applies extensive knowledge of above job duties, principles and practices in a specific discipline, field or area of expertise to independently resolve complex problems. Expertise recognized by peers inside and outside the Department.

- Advanced computer skills, including expertise with SAP, Business Warehouse, Enfos, MS-Word, Excel, and Power Point.
- Demonstrated understanding of accounting practices and financial reporting obligations.
- Demonstrated understanding of Major Work Categories, Planning Orders, and Orders.
- Able to complete assignments independently and meet commitments based on limited direction, including when tasks are complex and require significant experience-based judgment to accomplish.
- Applies extensive knowledge of financial concepts, principals, practices, and requirements to help with development and documentation of budgets, cost incurred, and financial liabilities – at project, portfolio, and program levels.
- Can create and provide novel and complex analysis and is able to identify key information missed by others.
- Demonstrates experienced judgment when making decisions and recommendations; uses technical & business judgment to determine cost effective and practical solutions.
- Able to function as a Senior level Budget Analyst at a program level performing the above job functions accurately and completely, with limited direction or oversight.
- Able to communicate a variety of topics effectively; and utilize a variety of styles in order to connect with the intended audience; able to present complex project information in informal and formal group settings; promotes greater understanding by providing background information and analysis rational.
- Able to facilitate and lead cross functional teams within the area of expertise for this position.
- Demonstrates mastery of written and verbal communication skills.
- Able to manage and perform multiple requests or functions concurrently by prioritizing tasks to achieve desired outcomes.
- Thoroughly understands PG&E’s basic financial and business policies and practices, and is able to apply them appropriately to financial estimating, economic analysis, forecasting, and tracking.
- Identifies process improvements, and takes ownership of problems and their solutions.

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**PROJECT MANAGEMENT ANALYST-ENV-ESC (50227305)**

**Summary**
This is a journey-level project analyst position that provides cost control and analysis, and scheduling support to other technical staff and management with minimal guidance of the Supervisor.

Works independently on routine job tasks and on non-routine job tasks as a member of a team with some supervision and guidance. Effectively manages small projects or tasks (scope, schedule and budget). Effectively provides
information on scope, schedule and budget for multiple projects concurrently.

The position may coordinate and assemble supporting documentation to support testing of key business processes against established controls.

The position may also manage, oversee, or support small projects or programs focused on process improvement of internal controls.

**Scope**

The position works with Directors, Managers, Project Managers Business Planners, Budget Analysts, and various business partners to plan, coordinate, and monitor services provided. The position also provides project/program status and metrics reports to management.

Work progress is reviewed occasionally for technical accuracy and adequacy in process and upon completion. May provide guidance and/or review of work of less experienced team members. May partner with internal or external stakeholders to solve problems or explore alternative solutions.

Effectively provides information on scope, schedule, and budget for multiple assignments concurrently. Prepares reports and provides recommendations based on an analytical approach.

**Job Duties**

**Schedule Development and Analysis:**
- Creates, maintains and updates schedules. Provide input to change control guidelines and recommendation to changes in baseline.
- Identifies documents, monitors and communicates project milestones and risks with appropriate stakeholders.
- Develops and maintains project schedule plans and work breakdown structures using appropriate software (e.g., SAP Project System, SAP Work Management System, MS Project, and/or Primavera as appropriate for project needs).
- Provides project team members with status information and milestones that ensure timely decisions that take advantage of changing circumstances and resource availability.
- Provides reports to management on overall program status regarding percentage of milestones met. Reports can include Level 1-3 status reports; Earned Value Management Systems reports; metrics tracking reports; scope, schedule, budget reports; or other reports requested by management.

**Cost Plan Development and Analysis:**
- Uses the cost and schedule plan to determine if project objectives are being achieved.
- Works with Budget Analyst to create, maintain, and update forecast budgets with Scientist/Project Manager input.
- Works with Budget Analyst to prepare various cost reports and maintain forecasts. Prepares project performance analysis, cost, and schedule status reports. Identifies cost and schedule variances from objectives and recommends corrective action.
- Provides communication as requested on project cost, schedule and risk status to project team members, stakeholders and management.
- Reviews and assists in preparing the long term budget input.
- Ensures that responses to budget and cost requests reflect correct project cost information and stakeholders are in concurrence.
**Project/Process Documentation & Reporting:**

- Verifies that project cost and schedule milestones were/were not attained and provides input to improve budget forecast and schedule.
- Tracks duration of various phases of projects to establish baselines used in subsequent schedules.
- Monitors and coordinates management of orders in SAP to support technical staff, project managers, and management from inception through completion and ensures that all required documentation is entered in current software system (e.g., SAP, Primavera).
- Maintains written and electronic project documentation and records for required aspects of the project.
- Documents project status, key issues and risks and resolution as required.
- Provides Scientists, Project Managers, management, and Business Partners with reports of project costs and/or schedule information including variance analysis according to an agreed upon level of detail and prioritization.
- Provides Project Team members with current status reports containing schedule and cost information as needed.
- Identifies and captures opportunities to improve procedures and processes around documentation and reporting.
- Works with other business partners to create and document business processes. Ensures that business processes are followed and documented, to maintain compliance with financial reporting obligations (Sarbanes Oxley).

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<tr>
<th>Interaction</th>
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<tr>
<td>External contacts primarily include project-related work and support contract administration with contractors and vendors. May include some interaction with agencies or non-governmental organizations. Internal contacts are primarily within base department, but can also include other PG&amp;E stakeholders, and typically include supporting project-related work, documenting and reporting progress, exchanging and coordinating information, documenting meetings and providing appropriate documentation. Interaction may also include periodic briefings of PG&amp;E Directors and occasional briefings of PG&amp;E Officers.</td>
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<th>Job Qualifications:</th>
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<td><strong>Education</strong></td>
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<tr>
<td>A 4-year BS/BA Degree in Engineering, Construction Management, a scientific discipline, economics, finance or business administration from an accredited curriculum in the US or the equivalent from outside the US is required.</td>
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<td><strong>Licenses/Certifications</strong></td>
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<td>Project Management certification desired.</td>
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<td><strong>Experience</strong></td>
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<td>4-6 years of relevant industry or resource agency experience (or less if employee consistently demonstrates distinguished performance and competencies) and/or Company experience on small-moderate sized projects with minimal complexity.</td>
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<td>Knowledge / Abilities</td>
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<tr>
<td>- Experience with appropriate software tools, currently SAP Work Management, Controlling Orders, Planning Orders, and BW</td>
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<tr>
<td>- Project Management, Project Controls, or Construction Management experience</td>
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<td>- Risk Management and Earned Value Analysis knowledge or experience desired.</td>
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<td>- Accounting/budgeting knowledge</td>
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<td>- Mathematical skills</td>
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<td>- Forecasting skills</td>
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Possesses intermediate-level knowledge of job duties and principles related to job responsibilities, as described below:
- Strong computer skills, including competency with SAP, MS-Word and Excel; competent with databases and project scheduling software.
- Able to complete assignments independently and meet commitments based on general direction including when tasks are complex and require experience-based judgment to accomplish.
- Able to support several projects concurrently, prioritizing tasks appropriately depending on the needs of respective projects.
- Applies sound knowledge of project management concepts, principals, practices, and requirements to help with development and documentation of project scopes and implementation plans.
- Can create and provide detailed analysis of cost and schedule reports and is able to identify key information.
- Demonstrates experienced judgment when making decisions and recommendations; uses technical & business judgment to determine cost effective and practical solutions.
- Able to function as a Journey level Project Management Analyst on multiple large and moderately complex projects, and is able to develop CPM schedules, detailed cost plans, project resource plans, and project authorization and justification documentation for these projects.
- Able to communicate a variety of topics effectively; and utilize a variety of styles in order to connect with the intended audience; able to present moderately complex project information in informal and formal group settings; promotes greater understanding by providing background information and analysis rationale.
- Demonstrates strong proficiency in written and verbal communication skills.
- Able to facilitate routine meetings. |
- Understands PG&E’s basic financial and business policies and practices, and is able to apply them appropriately to the cost estimating, economic analysis, justification, and approval of small to moderately complex projects. Proficiency with company systems including but not limited to SAP and other project management and financial software.

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<td>This is a senior-level project analyst position that provides project or program level oversight, cost control and analysis, and scheduling support to other technical staff and management with minimal guidance of the Supervisor. Works independently with only general direction. Can serve as team leader. Assignments are of broad scope and complexity. Assignments require integration of information from a variety of sources. Strives at all times to improve processes and procedures by identifying and evaluating new methods or techniques to achieve company goals and, where warranted, aggressively works to realize their adoption.</td>
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**SENIOR LEVEL PROJECT MANAGEMENT ANALYST-ENV-ESC (50227306)**
Uses independent judgment in applying appropriate principles and techniques in a broad range of situations to arrive at optimum solutions from the standpoint of practicality and cost-effectiveness.

Provides leadership, direction and assistance to Technical employees and teams. Acts as a mentor to Associate and Journey-level employees and educates PG&E personnel on technical issues relating to project management and controls.

The position works with business planners and other analysts to plan, coordinate, and monitor services provided to various business partners. The position also provides project/program status and metrics reports to management.

The position may coordinate and assemble supporting documentation to support testing of key business processes against established controls (e.g., Sarbanes Oxley), and/or test such controls.

The position may also lead or support projects or programs focused on process improvement of internal controls, and participate on Company task forces around institutionalizing such processes Company-wide.

**Scope**

Supports multiple projects by providing cost and schedule reporting and analysis and other project documentation. Assignments typically require expert knowledge of company systems and analysis techniques and require very limited direction from project leads and supervisor. Work progress is reviewed infrequently for technical accuracy and adequacy in process and upon completion. Represents project lead when he or she is not available. Routinely provides guidance and/or oversight of work of less experienced team members. Partners with internal or external stakeholders to solve problems or explore alternative solutions.

Demonstrates ability to solve organizational, resource and logistical problems. Effectively defines and manages large or complex projects or tasks and adequately addresses resources when planning work scopes. Performs assignments of broad scope and high complexity, with few precedents or standards established, and which require integration of information from a variety of sources. Routinely applies extensive knowledge of technical principles, practices and regulatory requirements within one or more areas of expertise to resolve complex problems.

**Job Duties**

**Schedule Development and Analysis:**

- Coordinates with Scientists and Project Managers to develop project schedule and budget forecast plans with functional department input.
- Creates, maintains and updates schedules. Provides input and recommends baseline change control proposals.
- Documents, monitors and communicates project milestones and risks with appropriate stakeholders.
- Participates in project status meetings, collects progress data and assists in revising project plan as needed.
- Monitors financial progress and maintains order group. Develops and maintains project schedule plans and work breakdown structures using appropriate software (e.g., SAP Project System, SAP Work Management System, MS Project, and/or Primavera as appropriate.
for project needs).

- Provides project team members with status information and milestones that ensure timely decisions that take advantage of changing circumstances and resource availability.
- Provides reports to management on overall program status regarding percentage of milestones met. Reports can include Level 1-3 status reports; Earned Value Management System; metrics tracking reports; scope, schedule, budget reports; or other reports requested by management.

**Cost Plan Development and Analysis:**

- Uses the cost and schedule plan to determine if project objectives are being achieved.
- Creates, maintains, and updates forecast budgets with Scientist/Project Manager input.
- Prepares various cost reports and maintains forecast. Prepares project performance analysis, cost, and schedule status reports. Identifies cost and schedule variances from objectives and recommends corrective action.
- Assesses and reports on project performance using established industry standards.
- Ensures that responses to project budget, and GRC or FERC cost requests reflect accurate and current project cost information and stakeholders are in concurrence.
- Provides regular communication on project cost, schedule and risk status to project team members, stakeholders and management.
- Reviews and assists in preparing the long term budget input.
- Ensures that responses to budget and cost requests reflect correct project cost information and stakeholders are in concurrence.
- Inputs data into various programs and prepare various cost and forecasting reports.

**Project/Process Documentation & Reporting:**

- Verifies that project cost and schedule milestones were/were not attained and provides input to identify budget forecast and schedule variances and recommends potential corrective action.
- Monitors and coordinates management of orders in SAP to support technical staff, project managers, and management from inception through completion and ensures that all required documentation is entered in current software system (e.g., SAP, Primavera, EDMS).
- Maintains written and electronic project documentation and records for required aspects of the project.
- Documents project status, key issues, risks and resolution, priority changes and approvals as required.
- Provides Scientists, Project Managers, management, and Business Partners with monthly reports of project costs and/or schedule information including variance analysis according to an agreed upon level of detail and prioritization.
- Identifies and captures opportunities to improve procedures and processes.
- Works with other business partners to create and document business processes. Ensures that business processes are followed and documented, to maintain compliance with financial reporting obligations (Sarbanes Oxley). May perform tests of other departments’ controls.
<table>
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<tr>
<th>Interaction</th>
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<td>Job Qualifications:</td>
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<td>Education</td>
<td>A 4-year BS/BA Degree in Engineering, Construction Management, a scientific discipline, economics, finance or business administration from an accredited curriculum in the US or the equivalent from outside the US is required.</td>
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<tr>
<td>Licenses/Certifications</td>
<td>Project Management certification required.</td>
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<tr>
<td>Experience</td>
<td>8-10 years relevant experience (or less if employee consistently demonstrates senior level performance). Experience as lead on large-scale and complex Company projects.</td>
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</table>
| Knowledge/Abilities | Typically applies extensive knowledge of job duties, principles and practices in a specific discipline, field or area of expertise to independently resolve complex problems. Expertise recognized by peers inside and outside the Department.  
- Exceptional computer skills, including expertise with SAP, MS-Word and Excel, and with databases and project scheduling software.  
- Able to complete assignments independently and meet commitments based on limited direction, including when tasks are complex and require significant experience-based judgment to accomplish.  
- Applies extensive knowledge of project management concepts, principals, practices, and requirements to help with development and documentation of project scopes and implementation plans.  
- Can create and provide analysis of cost and schedule reports and is able to identify key information missed by others.  
- Demonstrates experienced judgment when making decisions and recommendations; uses technical & business judgment to determine cost effective and practical solutions.  
- Creates buy-in for new solutions and approaches.  
- Able to function as a Senior level Project Management Analyst on multiple large and complex projects, and is able to independently develop CPM schedules, detailed cost plans, project resource plans, and project authorization and justification documentation for these projects.  
- Able to communicate a variety of topics effectively; and utilize a variety of styles in order to connect with the intended audience; able to present complex project information in informal and formal group settings; promotes greater understanding by providing background information and analysis rational.  
- Able to facilitate and lead cross functional teams for the purpose of tools, processes and methodologies.  
- Demonstrates mastery of written and verbal communication skills.  
- Able to facilitate routine and non-routine project meetings.  
- Thoroughly understands PG&E’s basic financial and business policies and practices, and is able to apply them appropriately to the cost estimating, economic analysis, justification, and approval of large and complex projects. |
**CONTRACT ADMINISTRATOR-ESC (50227122)**

<table>
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<tr>
<th>Summary</th>
<th>This position provides contracting administration services that aren’t otherwise required to be performed by Purchasing Department. The position supports management, Remediation Project Managers, Project Analysts, and Budget Analysts. Works independently on routine contracting tasks less than $100,000 and on non-routine contracting tasks of $100,000 or more in conjunction with the Purchasing Department. Effectively completes multiple tasks, concurrently. Takes ownership of complex problems and seeks to develop solutions with broad applicability. Uses an analytical approach to problem solving, and demonstrates good judgment in arriving at decisions and recommendations. Uses independent judgment in applying appropriate principles and techniques in a broad range of situations to arrive at optimum solutions from the standpoint of practicality and cost-effectiveness. The position works with team members and Purchasing Department to plan, coordinate, and monitor contracting needs/documents. The position also provides supplier diversity status and metrics reports to management. The position may coordinate and assemble supporting documentation to support audits. The position may also manage, oversee, or support initiatives focused on process improvement of contracting processes such as After The Fact Purchase Orders and Blocked Invoices.</th>
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</table>
| Job Functions | Preparing Contracts, Contract Work Authorizations, Contract Change Orders, and Field Change Orders:  
- Works with vendors and internal stakeholders to assemble, review, prepare, and route for vendor and management approval (using SRM and EDRS), necessary documents for these tasks.  
- Creates purchase orders.  
- Reviews vendor proposals to ensure that rates and terms are consistent with outline agreements.  
- Ensures that Company standards are followed when executing contract documents.  
- Tracks approval status of contracting documents from inception through approval and ensures that documents are routed expeditiously.  
- Participates as requested by management to review and score vendor proposals, as part of a proposal review team.  
- Ensures that contract documents and contracting decisions are appropriately recorded and filed. |

Demonstrates mastery of company systems including but not limited to SAP, Enfos, and Primavera and/or other project management software. - Identifies process improvements, and takes ownership of problems and their solutions.
**Invoice Review**
- Reviews invoices to ensure that rates and terms are consistent with outline agreements, and that date of invoice is not in error and thus producing an After The Fact Purchase Order.
- Works with vendors to resolve discrepancies and elevates issues to management as appropriate for resolution.

**Cost Tracking**
- As requested by management, Remediation Project Managers, Project Analysts, and Budget Analysts, tracks costs incurred by various vendors on various projects and prepare requested reports.
- Tracks spend against purchase orders to ensure that necessary funds are available to complete remaining work. Work with management and stakeholders to resolve discrepancies.

**Process Improvement**
- Collects and analyzes data relative to contracting process, and works with management to identify areas for improvement.

**Contract Process/Remediation Manual**
- Establishes and documents departmental processes involving contracting and invoicing, in accordance with Purchasing Department overall standards, and trains employees on processes to be followed.

**Supplier Diversity**
- Tracks vendor performance regarding supplier diversity spend.
- Prepares status reports for management and Remediation Project Manager review.

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<th>Knowledge / Abilities</th>
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<td>- Demonstrated knowledge of Company standards regarding contracting processes.</td>
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<td>- Advanced Excel skills.</td>
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<td>- Conflict resolution/negotiation skills</td>
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<td>- Demonstrated ability to track contract costs, purchase order status, and other required information in SAP</td>
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<td>- Demonstrated competencies on use of SRM and EDRS</td>
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<th>DESIRED:</th>
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<tr>
<td>- Process improvement experience</td>
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**Qualifications**
College degree with financial and contracting emphasis, or equivalent experience with demonstrated capabilities.

**SENIOR CONTRACT ADMINISTRATOR-ESC (50327909)**

**Summary**
This position provides contracting administration services that aren’t otherwise required to be performed by Purchasing Department. The position supports management, Remediation Project Managers, Project Analysts, and Budget Analysts.

Works independently on routine contracting tasks less than $100,000 and on non-routine contracting tasks of $100,000 or more in conjunction with the Purchasing Department. Effectively completes multiple tasks, concurrently.

Takes ownership of complex problems and seeks to develop solutions with
broad applicability across multiple lines of business.

Uses an analytical approach to problem solving, and demonstrates good judgment in arriving at decisions and recommendations. Work products require limited review and modification by management before being distributed to broader audiences.

Uses independent judgment in applying appropriate principles and techniques in a broad range of situations to arrive at optimum solutions from the standpoint of practicality and cost-effectiveness. Able to articulate logic and reasons for recommendations and demonstrate their applicability for management concurrence.

The position works with team members and Purchasing Department to plan, coordinate, and monitor contracting needs/documents. The position also provides and improves upon supplier diversity status and metrics reports to management; develops new approaches to supplier diversity forecasting; and monitors supplier diversity reports to eliminate excludable spend, identify firms that are potentially diverse, and facilitate their becoming CPUC-certified by referring them to a Supplier Diversity Consultant.

The position may coordinate and assemble supporting documentation to support audits and conduct self audits of contracting process adherence.

The position may also manage, oversee, or support initiatives focused on process improvement of contracting processes such as After The Fact Purchase Orders and Blocked Invoices. Recommends new concepts to improve contracting processes and works with Purchasing Department to forecast and anticipate contracting needs.

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<tr>
<th>Job Functions</th>
<th>Preparing Contracts, Contract Work Authorizations, Contract Change Orders, and Field Change Orders:</th>
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<tr>
<td></td>
<td>• Works with vendors and internal stakeholders to assemble, review, prepare, and route for vendor and management approval (using SRM and EDRS), necessary documents for these tasks.</td>
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<td>• Works with vendors and Project Managers to improve quality of supporting contract documents to reduce rework required by others.</td>
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<td></td>
<td>• Creates purchase orders.</td>
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<td></td>
<td>• Reviews vendor proposals to ensure that rates and terms are consistent with outline agreements.</td>
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<td>• Ensures that Company standards are followed when executing contract documents.</td>
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<td>• Tracks approval status of contracting documents from inception through approval and ensures that documents are routed expeditiously. Compiles and analyzes data relative to approval process cycle time, identifies trends causing delays, and recommends changes in processes to improve cycle time.</td>
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<td>• Participates as requested by management to review and score vendor proposals, as part of a proposal review team. Able to identify anomalous expenses in proposals and bring them to management or Project Manager attention.</td>
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<td>• Ensures that contract documents and contracting decisions are appropriately recorded and filed.</td>
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<td>• Recommends changes to improve contracting processes, and works...</td>
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with Purchasing Department, Law, and other lines of business as appropriate to implement them.

**Invoice Review**
- Reviews invoices to ensure that rates and terms are consistent with outline agreements, and that date of invoice is not in error and thus producing an After The Fact Purchase Order.
- Works with vendors to resolve discrepancies and elevates issues to management as appropriate for resolution.
- Recommends changes to invoice review process to improve cycle time, capture early payment discounts, or meet net payment requirements of contract.

**Cost Tracking**
- As requested by management, Remediation Project Managers, Project Analysts, and Budget Analysts, tracks costs incurred by various vendors on various projects and prepares requested reports.
- Tracks spend against purchase orders to ensure that necessary funds are available to complete remaining work. Works with management and stakeholders to resolve discrepancies.
- Able to capture appropriate data, analyze it, and report to management or Project Managers as to trends and recommendations.

**Process Improvement**
- Collects and analyzes data relative to contracting process, and works with management to identify areas for improvement.
- Able to identify, recommend, and implement process improvement within department with one’s own initiative, or work as a member of cross-departmental teams under the direction of others, when requested, and bring new concepts and recommendations to that team.

**Contract Process/Remediation Manual**
- Establishes and documents departmental processes involving contracting and invoicing, in accordance with Purchasing Department overall standards, and trains employees on processes to be followed.
- Develops well written, thorough documents that require minimal editing or rework.

**Supplier Diversity**
- Tracks vendor performance regarding supplier diversity spend.
- Assembles data from a variety of sources to track and forecast supplier diversity spend for strategically sourced vendors, non-strategically sourced vendors, and other contract spend (e.g., credit cards).
- Prepares status reports for management and Remediation Project Manager review that are reflective of departments total annual contract spend.
- Prepares departmental supplier diversity forecast reports and metric reports as a component of larger, line of business reports.
- Reviews supplier diversity reports for potentially excludable charges, brings them to management attention, and works with Supplier Diversity personnel to have them removed.
- Reviews supplier diversity reports to identify firms that are potentially diverse, and facilitate their becoming CPUC-certified by referring them to a Supplier Diversity Consultant.
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<th>Knowledge / Abilities</th>
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<td>• Conflict resolution/negotiation skills</td>
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<td>• Demonstrated ability to track contract costs, purchase order status, and other required information in SAP</td>
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<td>• Process improvement experience</td>
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<td>• Presentation Skills</td>
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<td>• Written Communication Skills</td>
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<td>• Knowledge of Contractual Terms and Conditions</td>
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| Qualifications | College degree with financial and contracting emphasis, or equivalent experience with demonstrated capabilities. |
| **Summary** | Under the guidance of a supervisor and/or Journey/Senior Telecommunications Engineer, position provides support for (mostly Capital) projects, including supporting the development of Job Estimates, vendor relations and equipment/material cost estimates, creation of standard construction packages, and consulting with construction personnel; assists in ensuring all required project documentation is complete; modify and utilize drawings in accordance with ISTS policy; ensure that circuit database and all associated project records are accurate and updated; investigate/analyze assigned project logistic issues and assist in developing plans, alternatives, and project proposals, including cost estimates for multiple-alternative requests; deliver cost effective and practical solutions; work with internal/external customers, clients, suppliers, and contractors; demonstrates good judgment in making decisions and recommendations; approaches plans and works in an organized manner; demonstrates effective organizational skills |
| **Job Duties:** | • Assist Project Manager in developing Project Proposals, Technical Scope, Plans, Schedules and Cost Estimates.  
• Provide detailed project engineering.  
• Manage and track material purchases and disposition.  
• Prepare status reports; project completion reports as needed for the project  
• Assist in the job walk downs and handoffs  
• Ensure completion of drawings; related design documentation  
• Attend technical training on emerging technologies and their applications to PG&E telecommunications’ systems.  
• Take responsibility to ensure the safety of work environment and ensures Construction Job Packages include adequate site safety information.  
• Attend safety training.  
• Adhere to Technology Standards  
• Create Bill of Material  
• Act as single point of contact for all technical issues with project managers on projects.  
• Coordinate project meeting requests with other team members as appropriate.  
• Promote the value of safety through conduct and communications. No job is considered of such high priority that safety will be compromised  
• May develop IT job estimates  
• May develop equipment configurations |
| **Scope** | Resolves problems of limited scope and complexity. Assignments are regularly reviewed. As experience increases, greater independence of judgment is expected with respect to standard solution problems. |
| **Interaction** | Work typically requires direction from more senior engineers and the supervisor. Works primarily with internal personnel. External contact is limited to those assigned by supervisor. |
| **Job Qualifications** |  
**Knowledge / Abilities** | Able to apply basic engineering principles and theory.  
Assess and recommend solutions for routine projects.  
Effective written and oral communications.  
Prioritize, plan and perform assigned work in an organized manner.  
Demonstrates good judgment.  
Shows initiative and is proactive. |
| **Education** | A 4-year BS Degree in Engineering or a 4-year BS degree in an Information Technology discipline in the US or the equivalent from inside/outside the US. |
| **Licenses / Certifications** | Recognized industry credentials and/or certifications desired |
| **Experience** | One year of experience in engineering, planning and/or operations desired. |

### JOURNEY LEVEL TELECOMMUNICATIONS ENGINEER (50230680)

**Summary**
This position requires the ability to perform all Associate level work [Telecommunications Engineer, Associate (4634)] independently. In addition to these roles, the position assists in the development of contracts to provide to project services; represent company when dealing with outside agencies; prepares studies and makes recommendations; ensure decisions consider long-term impact as well as short-term results; work independently most of the time, with support from Telecommunications Engineer, Senior and/or other senior telecom personnel; provides direction to design engineering personnel on overall design.

**Job Duties:**
May perform all the functions of Associate Telecom Engineer, and in addition:
- Provide technical support on projects
- Analyze project alternatives
- Provide detailed project engineering and technical issue resolution.
- Monitor and Control engineering tasks on project.
- Perform job walk downs and handoffs
- Ensure completion of drawings; related design documentation
- Keep up-to-date on emerging technologies and their applications to PG&E telecommunications' systems.
- Spec and Create Bill of Material.
- Build constructive and effective relationships and communication with stakeholders.
- Demonstrate knowledge in one or more area of technology.
- Act as a resource for engineering expertise and support in one or more areas of technology.
- Communicate effectively with suppliers and contractors
- Provide impact analysis of technical issues; facilitate discussion to ensure accurate decision making processes in projects and/or operational setting.
- Communicate technical and process issues and their impact to the schedule clearly and succinctly.
- Establish clear communications with internal and external clients to ensure that project scope is well defined and meets client needs.
- Work with design engineers to ensure that final documentation is accurate.
- Identify and pursue appropriate training and trade seminar to update technology knowledge and their applications to PG&E systems. Execute actions and decisions are executed with safety as the top priority. Instill safety best practices into all job functions.

**Scope**
Resolves problems of moderate scope. Assignments typically require standard solutions. Generally works independently with limited feedback from other engineers and supervisor. Demonstrates increasing technical and communication skills.

**Interaction**
Work sometimes requires direction from more senior engineers and the supervisor. Works primarily with internal personnel. Some external contact with vendors, PG&E contractors and customers. Governmental contacts only as assigned by supervisor.
**Job Qualifications:**

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<thead>
<tr>
<th>Knowledge / Abilities</th>
<th>Demonstrates knowledge and abilities required for the Associate level engineer and also: Works with limited supervision and guidance to meet project commitments. Able to understand and implement the technical requirements of interfacing engineering disciplines. Demonstrates informed judgment when making decisions and recommendations. Uses judgment in applying engineering principles and techniques to determine cost effective and practical solutions. Ability to interpret applicable codes, industry standards and regulations. Can provide thorough analysis of issues and justification of recommendations. Demonstrate an understanding of agencies that need to be contacted for correct permits and licenses.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>A 4-year BS Degree in Engineering or a 4-year BS degree in an Information Technology discipline in the US or the equivalent from inside/outside the US.</td>
</tr>
<tr>
<td>Licenses / Certifications</td>
<td>Current and active California PE license and/or recognized Industry credentials and or certifications desired.</td>
</tr>
<tr>
<td>Experience</td>
<td>Mastery of the Associate level Engineer job duties or equivalent and demonstrated knowledge and ability to perform the basic duties of the Journey level Engineer. Meets specific technical requirements gained through a minimum of 3 years’ experience in engineering, planning and/or operations.</td>
</tr>
</tbody>
</table>

**Summary**

<table>
<thead>
<tr>
<th>SENIOR TELECOMMUNICATIONS PROJECT ENGINEER (50230681)</th>
<th>This position requires the ability to perform all Journey level work independently. In addition to these roles, provides leadership among engineers, including high level of technical knowledge; possesses leadership skills, including excellent written and verbal communications; leads engineering teams on larger projects; manages or assists with client communications/meetings; review &amp; approval of designs for compliance with all applicable standards, regulations, and best practices; review &amp; approval of engineering estimates; works closely with other engineers, including attendance at client meetings, to ensure consistent, high-quality engineering product delivery to clients; provides final approval of designs and estimates prior to issuance to clients through Project Services team.</th>
</tr>
</thead>
</table>

**Job Duties:**

- Manage large highly complex projects and perform engineering analyses, comparative studies of various alternatives, and develop conceptual designs
- Develop innovative solutions to resolve challenging technical issues and help on operational issues as needed
- Provide technical advice to Project Managers in scheduling of different technical activities as related to a complex project and their budget impact.
- Perform Telecom Project work on large and system-wide projects.
- Provide input to SME’s on Technical Standards Development.
- Coach, direct, and assist technical employees and teams. May act as team leader.
- Support root cause analysis and makes recommendations for improvement.
- Mentor associate and journey Telecom Project engineers.
- Provide contractor technical oversight and peer reviews
- Lead shop meetings

**Scope**
Resolves problems of complex scope. Assignments may require complex solutions. Works independently with limited feedback from other engineers and supervisor.

**Interaction**
Works with internal and external personnel. External contacts include vendors, PG&E contractors, customers and regulatory agencies. May include other governmental contacts as assigned by supervisor.

**Job Qualifications:**

**Knowledge / Abilities**
Demonstrate knowledge and abilities required for the Associate and Journey level Engineer and also:
- Demonstrate ability to handle multiple large scale, large budget complex projects without supervision.
- Demonstrate good presentation skills including knowledge transfer presentations.
- Ability to serve as the leader for guiding the project team.
- Complete assignments of broad scope and complexity.
- Ability to integrate information from a variety of sources.

**Education**
A 4-year BS Degree in Engineering or a 4-year BS degree in an Information Technology discipline in the US or the equivalent from inside/outside the US

**Licenses / Certifications**
Current and active California PE license and/or recognized industry credentials and or certifications desired.

**Experience**
Mastery of the Journey level Engineer job duties and demonstrated knowledge and ability to perform the basic duties of the Senior level Engineer. Meets specific technical requirements gained through a minimum of 8 years cumulative experience in engineering, planning and/or operations.

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**SENIOR ADVISING / SENIOR CONSULTING TELECOMMUNICATIONS ENGINEER (50372615/50372614)**

**Summary**
This is a senior consulting-level telecom engineer job that requires mastery of the Senior Telecom Engineer duties and is routinely requested by management to lead, as assigned, engineering and design, for the most complex and high risk exposure business endeavors, very large capital and expense improvements, and/or high profile or highly contentious projects. The Senior Consulting Telecom Engineer is a widely recognized expert within the Company and with external partners and stakeholders, is requested to apply expert judgment and extensive knowledge of the telecom industry to research and develop new/unique solutions; develops and applies extensive risk management and programmatic approaches for high risk and/or system-wide issues; and/or applies negotiation skills to resolve complex challenges. They are routinely requested by management to apply their expertise to projects they don’t otherwise manage, and at a programmatic level. Provides extensive leadership, coaching and development of less experienced engineers. Provides high-level technical briefings, advice, and recommendations to upper management. Responsibilities may include privileged and confidential work.

**Job Duties**
Performs the functions of Journey and Senior level Telecommunications Engineer, but for more complex, larger budget, higher risk exposure, and higher profile projects. Job duties will vary by assignment. In addition, job duties include, but are not limited to:
- Applies extensive telecom expertise to develop tactical strategies and solutions for the most complex business endeavors.
- Manages multiple, highly complex engineering projects.
**SENIOR ADVISING / SENIOR CONSULTING TELECOMMUNICATIONS ENGINEER (50372615/50372614)**

- Develops and applies extensive risk management and programmatic approaches for high risk, high visibility, and/or system-wide issues.
- Presents clear, concise, and well-reasoned positions for desired ideas and proposals.
- May represent PG&E at external industry associations, committees, trade organizations and other inter-utility groups.
- Researches and develops innovative solutions to solve challenging technical and regulatory issues.
- Provides technical leadership on high risk and/or highly complex telecom solutions to meet operational requirements of critical or high risk PG&E business systems.
- Performs complex and advanced engineering system modeling, analyses, studies, and develops conceptual telecom design.
- Provides high-level technical briefings, advice, and recommendations to upper management.
- Provides technical knowledge and support in the development of standards, specifications, construction documents, and guidelines.
- Interprets, clarifies, and educates others in applicable industry standards, and regulatory codes and regulations.
- Provides expert knowledge and guidance to others in design reviews, start-up testing, inspections, and condition assessment; actively supports complex and/or large project start-up tests and field inspections.
- Provides extensive leadership, coaching and development of less experienced engineers.
- Routinely requested by management to apply their expertise to projects they don’t otherwise manage, and at a programmatic level.
- Demonstrates ability to ensure high quality work by self and others in discipline and/or project team; supports development of design standards and specifications; conducts effective design reviews; and approves work of less experienced engineers.
- Seeks opportunities to build organization’s understanding of technical information, processes, and tools; demonstrates the ability to effectively transfer knowledge; supports development of effective training.
- Readily integrates industry knowledge and best practices into everyday business practices and decision making; provides others with interpretation and guidance on industry standards and regulations.
- Proactively identifies trends over multiple projects or years; takes needed action to initiate practical system-wide improvements, provides recommendations, develops implementation plans, and leads implementation.
- Proactively evolves telecom engineering skills and knowledge through industry associations and conferences, technical workshops, trade publications, and additional formal education.

**Scope**

Routinely requested by management to apply extensive telecom expertise to develop tactical telecom solutions for the most complex, high risk, business critical PG&E systems. Manages multiple complex, high risk, or very large engineering, construction, and/or regulatory projects and resolves problems of
<table>
<thead>
<tr>
<th><strong>Job Title:</strong></th>
<th>Senior Advising / Senior Consulting Telecommunications Engineer  <em>(50372615/50372614)</em></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Responsibilities:</strong></td>
<td>Very complex scope. Is widely recognized and serves as an expert within area or specialization to meet high level business needs. Regularly expected to apply creativity or new approaches to assignments that may be unique. Regularly takes a leadership role on technically or complex regulatory projects. Customarily and regularly uses discretion and independent judgment in fulfilling these job functions. Regularly supports Directors, Managers, Architects, Supervising Engineers, and Project Managers on programmatic solutions and process improvements.</td>
</tr>
<tr>
<td><strong>Interaction:</strong></td>
<td>The Senior Consulting Telecom Engineer must have excellent communication skills. The Senior Consulting Telecom Engineer will work closely with Telecom Architects and Engineering Supervisors in determining and executing work assignments and supporting engineering process improvement. The Senior Consulting Telecom Engineer will work closely with the project management organization to meet scope, schedule, and cost on the most highly complex projects. External to ISTS, the Senior Consulting Telecom Engineer will work closely with business partners on critical, high risk PG&amp;E systems (such as protection, RAS, EMS, SCADA, etc.) to ensure that complex engineering designs meet the business requirements. Coaches and mentors other telecom engineers routinely.</td>
</tr>
<tr>
<td><strong>Job Qualifications:</strong></td>
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<tr>
<td><strong>Education:</strong></td>
<td>A 4-year BS Degree in Engineering or a 4-year BS degree in an Information Technology discipline in the US or the equivalent from inside/outside the US</td>
</tr>
<tr>
<td><strong>Licenses/Certifications:</strong></td>
<td>Current and active California PE license and/or recognized industry credentials and/or certifications required.</td>
</tr>
<tr>
<td><strong>Experience:</strong></td>
<td>Mastery of the Journey and Senior level Telecom Engineer job duties and demonstrated knowledge, leadership, and ability to perform the duties of the Senior Consulting Telecom Engineer. Minimum 13 years cumulative experience in IT Telecom Engineering or related areas.</td>
</tr>
<tr>
<td><strong>Knowledge/Abilities:</strong></td>
<td>Demonstrates knowledge and abilities required for the Journey and Senior level Telecom Engineer and also:</td>
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<td></td>
<td>- Demonstrates expert-level knowledge of the telecom industry concepts, principles, standards, practices, and regulatory requirements in area of expertise to resolve complex problems.</td>
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<td></td>
<td>- Provides leadership, direction, and coaches and develops less experienced engineers.</td>
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<td></td>
<td>- Demonstrates exceptional verbal and written communication and presentation skills.</td>
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<td></td>
<td>- Builds consensus around complex and controversial technical issues and successfully persuades others to act on agreements reached.</td>
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</table>
POWER GENERATION

POWER GENERATION PROJECT ENGINEER

Job Titles

<table>
<thead>
<tr>
<th></th>
<th>Licensed</th>
<th>Unlicensed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Associate</td>
<td>Associate Civil, Electrical, or Mechanical Engineer (per license)</td>
<td>Associate Project Engineer</td>
</tr>
<tr>
<td>Journey</td>
<td>Civil, Electrical, or Mechanical Engineer (per license)</td>
<td>Project Engineer (incumbents only, must have license to progress beyond mid-point of wage scale; new hires must have license)</td>
</tr>
<tr>
<td>Senior</td>
<td>Senior Civil, Electrical, or Mechanical Engineer (per license)</td>
<td>Does not apply / must have license</td>
</tr>
<tr>
<td>Senior Consulting</td>
<td>Senior Consulting Project Engineer</td>
<td>Does not apply / must have license</td>
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</tbody>
</table>

ASSOCIATE PROJECT ENGINEER (50216539)

Summary

This Associate Level Project Engineer position is the first in a progression; the job performs tasks of limited scope under the guidance of more senior engineers and project managers. This job provides engineering, project management, and technical support to O&M staff, for small to medium capital and expense improvements to power generation and infrastructure facilities. Projects are normally discipline specific of limited to moderate complexity, and may include upgrades or replacement of turbine/generator, boiler, auxiliary equipment or minor improvements to civil water conveyance or infrastructure features. Job duties will vary by assignment. Responsibilities may include Privileged and Confidential work.

Job Duties:

Initial assignments from the tasks below will require direction and supervision; with experience the independence and responsibility will expand and the need for supervision will decrease. Jobs duties will vary by assignment and include, but are not limited to:

- Fully understands Power Gen safety program and requirements; looks for and resolves unsafe situations; models safe behavior through personal actions and design efforts; holds themselves and others accountable for safety; and contributes to Power Gen’s safety programs.
- Actively participates on a small number of Power Gen project teams as the discipline (civil, electrical, or mechanical) engineer or project manager, or in support of more experienced engineers. Coordinates project activities with other disciplines as needed.
- Provides appropriate design criteria and calculations; ensures proper checking, design reviews, approvals, and documentation.
- Investigates resources required to complete engineering and project-related tasks.
- Prepares project forecast for engineering, tracks progress, updates as needed, and provides periodic updates.
- Under direction, reviews and approves project material procurement list, vendor drawings, equipment specification updates, and engineering material requests.
- Under direction, provides construction support and evaluates and makes recommendations to resolve field construction problems. Supports start-up tests and field inspections as assigned.
- Procures long-lead time material for assigned projects, working with more
### ASSOCIATE PROJECT ENGINEER (50216539)

- Experienced engineers and project managers.
- Ensures all drawings affected by design changes are updated in a timely manner to reflect as-built conditions. Ensures field design changes are properly managed.
- With the support from supervisors and more experienced engineers and project managers, provides technical direction/oversight to consultants and contractors.
- Provides technical direction to Design Engineers and Drafters; ensures quality checking of all work; engineer may perform duties of Design Engineers as needed for training and delivery on project commitments.
- Provides and/or works with more experienced engineers and project managers to provide technical assessments and/or project management services for operating and/or maintenance problems, where needed.
- In emergencies, promptly responds to facility failures to support assessment and corrective actions.
- Supports O&M by serving as the “on-call supervisor” on a periodic basis.
- Supports more experienced engineers and project managers and/or provides traditional project management services for small to medium projects, including:
  - Develops and defines, documents, freezes, and obtains stakeholder concurrence of project scope and objectives
  - Establishes and leads project team with agreed-upon roles and responsibilities
  - Obtains commitment on detailed work plans including schedule, cost, resource, contingency and communication plans
  - Obtains management approval as needed and is responsible for on-going project tracking, analysis and resolution of project cost, scope, resource and schedule issues
  - Ensures project documentation is maintained
  - Collaboratively with supervisor, prepares, evaluates and negotiates contracts and proposals from consultants, equipment vendors, and construction firms, and manages resulting work.
  - Communicates project status on a regular basis to all stakeholders
  - Assures implementation of applicable quality standards
- Some job duties overlap with the Project Management classifications.
- Other duties as assigned as related to Engineering and Project Management.

<table>
<thead>
<tr>
<th>Scope</th>
<th>Manages multiple routine to moderately complex issues and projects and resolves problems of limited scope and/or supports more experienced engineers and/or project managers on more complex and large scope projects. Assignments typically require application of standard solutions, but may include a moderate level of innovation. Under general direction, independently plans &amp; manages work to meet commitments and assigned objectives. Progress reviewed periodically for technical accuracy &amp; adequacy throughout process.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interaction</td>
<td>External contacts typically involve oversight by more experienced engineers and/or project managers and include directing project-related work and contract administration with contractors; and providing information and conducting limited discussions with external stakeholders. Internal contacts are primarily with Power Gen personnel, including O&amp;M clients and project team members, and PG&amp;E internal services organizations.</td>
</tr>
<tr>
<td><strong>Job Qualifications:</strong></td>
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<tr>
<td><strong>Education</strong></td>
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<tr>
<td>A 4-year BS Degree in Engineering from an accredited curriculum in the US or the equivalent from outside the US is required.</td>
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<tr>
<td><strong>Licenses / Certifications</strong></td>
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<tr>
<td>Successful completion of California E.I.T. examination. Current and active California PE license desired.</td>
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<tr>
<td><strong>Experience</strong></td>
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<tr>
<td>At least 18 months of engineering and/or project management experience and demonstrated performance in related industry; or demonstrated skill development and performance in Power Gen’s EIT program, or completion of PG&amp;E’s college new hire program</td>
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</tr>
<tr>
<td><strong>Knowledge / Abilities</strong></td>
<td></td>
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<tr>
<td>• Able to apply basic engineering and/or project management principles and theory.</td>
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<tr>
<td>• Demonstrated ability to identify information needed to solve a problem; gather and organize information in systematic manner; develop simple analysis and/or support more complex analysis by more experienced engineers; prepare basic reports and displays of data logically and according to established standards and guidelines.</td>
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<tr>
<td>• Has basic understanding of utility industry, general knowledge of design requirements and industry standards, and proven ability to develop simple designs and specifications.</td>
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<tr>
<td>• Able to provide technical and/or project oversight and direction to consultants, suppliers, and construction firms to meet routine to moderately complex project needs; understands contracting principals and options; able to contribute to the favorable negotiation and resolution of contract disputes.</td>
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<tr>
<td>• Able to function as a project manager on projects with limited or routine scope and/or supports more experienced project managers on larger or more complex projects; has good understanding of project management concepts, principals, and practices; able to provide clear and effective leadership to project team; able to develop scopes, schedules, cost plans and obtain job authorizations; able to coordinate team activities and analyze, manage, and communicate project progress on simple projects or in support of more complex projects.</td>
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<tr>
<td>• Ability to combine technical &amp; business judgment in applying engineering and project management principles and techniques to determine cost effective and practical solutions.</td>
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<tr>
<td>• Understands PG&amp;E’s basic financial and business policies &amp; practices and tools, and able to apply appropriately to the cost estimating, economic analysis, justification, and approval of routine moderately complex projects.</td>
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<tr>
<td>• Strong communication and analytical skills; effectively communicates orally and in writing; able to present basic information in informal and formal group settings; able to facilitate project team meetings.</td>
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<tr>
<td>• Able to build consensus with team members and contractors around basic project and technical issues that involve limited controversy.</td>
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<tr>
<td>• Approaches and plans work in an organized manner to meet project commitments.</td>
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<tr>
<td>• Demonstrates good judgment when making decisions and recommendations, including solicitation of guidance from experienced personnel.</td>
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<tr>
<td>• Frequently shows initiative and takes action proactively.</td>
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<tr>
<td>• Works with more experienced engineers and project managers to further their own development.</td>
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<tr>
<td>• Proactively evolves engineering and project management skills and</td>
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</tbody>
</table>
### ASSOCIATE PROJECT ENGINEER (50216539)

- Knowledge through industry associations & conferences, technical workshops, trade publications, and additional formal education.
- Proficient business computer skills such as Microsoft Office Suite Programs (Emphasis on Excel, Word, and MS Project).

### JOURNEY PROJECT ENGINEER (50216538)

**Summary**

This is a journey-level Project Engineer job that requires mastery of the Associate level Project Engineer skills and duties and provides complete engineering & design, project management, and technical support to O&M staff for a wide range of moderately complex issues and multiple medium to large capital and expense improvements to power generation and infrastructure facilities. The position requires a comprehensive knowledge of job functions and proficiency in applying sound engineering and project management principals; recognition as a professionally licensed engineer; a working knowledge of industry practices, standards, and equipment; ability to develop and implement all aspects of multiple assigned projects; use of independent judgment; enhanced verbal and written communication skills; and ability to work with minimal supervision. Job duties will vary by assignment. Responsibilities may include Privileged and Confidential work.

**Job Duties:**

Performs functions of Associate level Project Engineer, but for more complex and higher profile projects. Jobs duties will vary by assignment. In addition, job duties include, but are not limited to:

- Leads design and/or project management efforts for moderately complex generation projects that can be discipline specific, multi-discipline, or programmatic in nature.
- Provides broad and in-depth technical support to O&M as needed including incident investigation and development of corrective actions.
- Proactively controls scope, schedule, cost, and quality of designs and projects throughout project life cycle; including coordinating related activities of all project internal & external stakeholders.
- Performs and/or reviews engineering analyses and studies, detailed scope, viable alternatives, conceptual designs, and recommended fixes to ensure safe/reliable operation of generation assets.
- Collaboratively with supervisor and Project Manager, solicits, prepares, and evaluates contracts and proposals, including EPC from engineering and/or project management consultants, equipment vendors, and construction firms, and directs resulting work. Reviews consultant contracts for technical compliance.
- Interprets and applies applicable codes and regulations.
- Approves and stamps technical reports, specifications, new drawings, and revisions to existing drawings for projects.
- Works with supervisors and others to represent PG&E to internal and external organizations as required
- Identifies gaps between current business practices and stated objectives and provides recommendations for process improvements to address gaps.
- Other job duties as assigned as related to Engineering and Project Management.

**Scope**

Manages multiple moderately complex issues and projects and resolves problems of moderate scope. Supports more experienced engineers and project managers on more complex and large scope projects. Assignments
**JOURNEY PROJECT ENGINEER (50216538)**

<table>
<thead>
<tr>
<th>Interaction</th>
<th>External contacts primarily include directing project-related work and contract administration with contractors and vendors; and providing information, conducting limited discussions, and obtaining approvals from regulatory agencies. Internal contacts are primarily with Power Gen personnel, including O&amp;M clients and project team members, and PG&amp;E internal services organizations and typically include directing project-related work, discussing and reporting progress, exchanging and coordinating information, managing meetings and providing appropriate documentation. May partner with internal or external stakeholders to solve problems or explore alternative solutions.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Qualifications:</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>A 4-year BS Degree in Engineering from an accredited curriculum in the US or the equivalent from outside the US is required.</td>
</tr>
<tr>
<td>Licenses / Certifications</td>
<td>Current and active California PE license required for all new hires. Project Management Certification strongly desired.</td>
</tr>
<tr>
<td>Experience</td>
<td>Mastery of the Associate level Project Engineer job duties and demonstrated leadership, knowledge, and ability to perform the job duties of the Journey level Project Engineer. Meets specific technical requirements gained through a minimum of three years of cumulative experience in project engineering, design, and construction.</td>
</tr>
</tbody>
</table>
| Knowledge / Abilities | - Demonstrates knowledge and abilities required for the Associate level Project Engineer and also:  
  - Able to manage and complete several projects concurrently, depending on scope and complexity.  
  - Able to stamp and/or certify engineering drawings and documents.  
  - Has demonstrated a broad and in-depth knowledge of engineering and project management concepts, principals, practices, and design requirements for generation assets; ability to develop moderately complex design changes, project scopes, and project implementation plans; and provide more in-depth investigation & analysis support to O&M.  
  - Has a working knowledge of power generation industry including understanding of design, construction, and/or operation of rotating machines, and experience interpreting applicable codes, standards, regulations, and practices.  
  - Demonstrate informed judgment when making decisions and recommendations and use of technical & business judgment in applying engineering and project management principles and techniques to determine cost effective and practical solutions.  
  - Able to function as a journey level project manager on projects with moderate scope and/or support more experienced project managers on larger or more complex projects.  
  - Track record of building consensus around moderately complex and controversial project issues and successfully persuading others to act on agreements reached; able to build upon foundation of technical and business knowledge to shape the opinions of others.  
  - Able to provide clear and effective technical direction and guidance to less experienced engineers, project managers, drafters, and analysts, and to provide training to these and other groups as needed.  
  - Able to independently provide technical and/or project oversight and direction to consultants, suppliers, and construction firms to meet |
### Journey Project Engineer (50216538)

- moderately complex project needs; understands contracting principals and options; able to effectively manage moderately complex contracts and to negotiate and resolve contract disputes favorably.
- Track record of taking ownership of problems and their solutions.
- Able to identify gaps between current business practices and stated objectives and provide recommendations for process improvements to address gaps.
- Track record of working with senior engineers and project managers to further his or her own professional development.
- Proactively evolves engineering and project management skills and knowledge through industry associations & conferences, technical workshops, trade publications, and additional formal education.

### Senior Project Engineer (50262565)

#### Summary

This is a senior-level project engineer job that requires mastery of the Journey Project Engineer job duties and is responsible for leading, as assigned, engineering & design, project management, program management, and/or water rights management, and technical support to O&M staff for a wide range of complex issues and multiple large capital and expense improvements to power generation and infrastructure facilities. Project duration is generally multi-year, requires significant risk management, and may include formal partnering agreements with outside firms. The position requires an extensive knowledge of the power generation or heavy industry; extensive project management skills; extensive contract management skills; excellent verbal and written communication skills; and sound judgment to independently resolve complex problems with only general direction. Provides leadership, coaching, technical direction, knowledge transfer and assistance to technical employees and teams. Job duties will vary by assignment. Responsibilities may include Privileged and Confidential work.

#### Job Duties:

- Performs functions of Associate and Journey level Project Engineers, but for more complex, larger budget, and higher profile projects. Job duties will vary by assignment. In addition, job duties include, but are not limited to:
  - Leads and applies extensive knowledge in the design and/or project management efforts for multiple complex and/or large generation projects that can be discipline specific, multi-discipline, or programmatic in nature.
  - Provides leadership, coaching, technical direction, oversight and quality control for assigned projects and technical work done in discipline, knowledge transfer, and assistance to many technical and/or project management employees and teams; some technical services often overlap with those provided by operations & maintenance specialists, but from a design perspective; may act as a engineering and/or project management mentor.
  - Proactively controls scope, schedule, cost, and quality of a large portfolio of projects throughout project life cycle; may oversee the work of other project managers and engineers.
  - Approves, leads, and/or performs extensive complex risk management and engineering analyses & studies of generation assets, including dynamic and static modeling of structural, hydraulic, and electrical systems and as assigned, water rights.
  - Leads the development and/or presentation of findings to both internal and external organizations, including regulatory bodies, contractors and outside vendors.
• Interprets, applies, and educates others in applicable industry standards, and regulatory codes and regulations.
• Develops and/or evolves standards and specifications.
• Works with supervisor and others to manage relationships with external stakeholders; develop regulatory and facility safety strategies; and negotiate with regulatory agencies and third parties on complex project and facility safety issues and as assigned, water rights.
• Provides extensive knowledge and guidance to others in start-up testing, inspections, and condition assessment; actively supports complex and/or large project start-up tests and field inspections, and as assigned, water rights.
• As assigned, may perform water rights management, including interpreting, preserving, investigating, tracking, records management, permitting, licensing, filing and responding to protests and complaints, reviewing and responding to water right applications and other filings by entities other than PG&E, providing expertise, representing PG&E in regulatory and other proceedings, providing internal expert counsel and direction, reviewing and payment of water right fees, and other tasks related to water rights. Duties include:
  o Conducts meetings, prepares written technical and regulatory documents, prepares water rights applications and agreements
  o Represents company to government bodies, conducts site inspections, plans and manages annual water rights budget, and works with Supervisor to prepare written and verbal communications with regulatory agencies, governmental organizations and other third parties
  o Negotiate with regulatory agencies, non-governmental organizations and other third parties, develop strategies related to water rights, and monitor and adopt changes in industry, legislation and regulation related to water rights
• Provides independent oversight and administration of EPC contracts
• Develops and champions company-wide best practices
• Makes presentations to PG&E Officers, various agencies, and the public as appropriate
• Mentors and provides guidance to less experienced team members
• Other duties as assigned as related to engineering and project management.
• Will work with Supervisors and Principals for some duties.

Scope
Manages multiple complex issues and projects and resolves problems of complex scope. Assignments regularly provide an opportunity for creative or non-standard approaches. Under limited general direction, independently plans and conducts work to meet assigned general objectives. Supports Supervising Engineers Project Managers, Principal Engineers, and/or leads the development and implementation of programmatic solutions, process improvements, regulatory relations, contracting strategies, and very large and/or complex projects.

Interaction
External contacts primarily include directing project-related work and contract administration with contractors and vendors, and as assigned, water interests; providing information, conducting discussions, and obtaining approvals from regulatory agencies; and interaction with industry associations. Internal contacts are primarily with Power Gen personnel, including O&M clients and project team members, and PG&E internal services organizations and typically include directing project-related work, discussing and reporting progress, exchanging and coordinating information, managing meetings and providing
appropriate documentation. Partners with internal or external stakeholders to solve problems or explore alternative solutions.

<table>
<thead>
<tr>
<th>Job Qualifications:</th>
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<tbody>
<tr>
<td><strong>Education</strong></td>
<td>A 4-year BS Degree in Engineering from an accredited curriculum in the US or the equivalent from outside the US is required. MS Degree in Engineering, Construction Management, or MBA is desirable.</td>
</tr>
<tr>
<td><strong>Licenses / Certifications</strong></td>
<td>Current and active California PE license required. PMI certification is desirable.</td>
</tr>
<tr>
<td><strong>Experience</strong></td>
<td>Mastery of the Associate and Journey level Project Engineer job duties and demonstrated knowledge, leadership, and ability to perform the job duties of the Senior level Project Engineer. Meets specific technical requirements gained through a minimum of eight years of cumulative experience in engineering, design, and construction (or water rights, as assigned); at least five of which must be in generation or heavy industry.</td>
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<tr>
<td><strong>Knowledge / Abilities</strong></td>
<td>Demonstrates knowledge and abilities required for the Associate and Journey level Project Engineer and also:</td>
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<td>• Demonstrated ability to lead design of a broad scope of multiple medium to large scale complex projects; provide resolution of complex technical and/or contractual issues; and/or provide project management on multiple projects with complex scope requiring non-standard approaches; without supervision.</td>
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<td>• Demonstrates extensive knowledge of the generation industry, including extensive understanding, as applicable, of design, construction, and/or operation of rotating machines, dams, and water conveyance and experience interpreting applicable codes, standards, regulations, and practices.</td>
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<td>• Provides technical leadership within licensed discipline and demonstrates extensive knowledge of the generation industry, including extensive calculation, modeling, and analysis capabilities.</td>
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<td>• Demonstrates extensive contracting knowledge and contract negotiation and management skills.</td>
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<td>• As applicable, demonstrates extensive knowledge and abilities related to water rights and ability to apply to PG&amp;E’s water rights.</td>
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<td>• Demonstrates excellent verbal and written communication skills; utilizes a variety of styles to connect with the intended audience; able to present complex information to upper management on a variety of topics.</td>
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<td>• Demonstrates application of extensive project management skills, including seasoned and experience-based judgment and organizational savvy in applying and adapting traditional project management techniques.</td>
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<td>• Builds consensus around complex and controversial project &amp; technical issues and successfully persuades others to act on agreements reached.</td>
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<td>• Track record of ensuring high quality work by self and others on project team and overseeing work of less experienced team members.</td>
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<td>• Experienced in integrating industry knowledge and best practices into everyday business practices and decision making; provides others with interpretation and guidance on industry standards and regulations.</td>
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<td>• Fully understands PG&amp;E’s financial and business policies &amp; practices, and provides guidance and oversight to incorporate into day-to-day activities.</td>
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<td>• Ability to identify trends over multiple projects or years and take needed action to initiate practical system-wide improvements, provide recommendations, develop implementation plans, and lead implementation.</td>
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</table>
- Track record of working to further his or her own professional development through industry associations & conferences, technical workshops, trade publications, and additional formal education, and of mentoring less senior engineers and project managers.

<table>
<thead>
<tr>
<th>JOURNEY PROJECT MANAGER (50216541)</th>
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<tbody>
<tr>
<td><strong>Summary</strong></td>
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<tr>
<td><strong>Job Duties:</strong></td>
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| | - Identifies and communicates lessons learned and incorporates prior
### JOURNEY PROJECT MANAGER (50216541)

- Lessons learned as best practices into projects
- Plans and leads project meetings
- Assists in the development of budget and long-term plans for future projects
- Some job duties may overlap with the Project Management Analyst classifications
- Will work with Supervisors and Principals for some duties
- Other duties as assigned as related to Project Management
- The project manager also provides normal and emergency maintenance and operation support
- In emergencies, promptly responds to facility failures to support assessment and corrective actions
- Works with supervisors to provide technical direction to the project team and support for less experienced project managers.
- May provide independent oversight and administration of lower risk/less complex EPC contracts
- Works with supervisor and others to represent PG&E to government bodies, regulatory agencies and non-governmental organizations as required for assigned projects
- May support O&M by serving as the “on-call supervisor” on a periodic basis
- Identifies gaps between current business practices and stated objectives and provides recommendations for process improvements to address gaps

### Scope

Manages multiple moderately complex issues and projects and resolves problems of moderate scope. Supports more experienced engineers and project managers on more complex and large scope projects. Assignments typically require standard solutions, but may include a moderate level of innovation. Under limited general direction, independently plans work to meet assigned objectives; progress is reviewed periodically for technical accuracy and adequacy in process and upon completion.

### Interaction

External contacts primarily include directing project-related work and contract administration with contractors and vendors. Provides information to third parties (for example, government, regulatory or community groups), conducts limited discussions with external stakeholders, and obtains approvals from regulatory agencies. Internal contacts are primarily with Power Gen personnel, including O&M clients and project team members, and PG&E internal services organizations. May provide guidance and/or oversight of work of less experienced team members.

### Job Qualifications:

#### Education

A 4-year Bachelor’s Degree in Construction Management, or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US.

Or 8 years of experience in significant related work experience in lieu of educational requirements.

#### Licenses / Certifications

PMP Certification strongly desired. Current and active California PE license desired. Valid driver’s license.

#### Experience

Meets specific technical requirements gained through a minimum of three years of cumulative experience in project engineering, design, and construction, including demonstrated successful leadership of these activities.
### Journey Project Manager (50216541)

<table>
<thead>
<tr>
<th>Knowledge / Abilities</th>
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<tbody>
<tr>
<td>− Has demonstrated application of broad and in-depth knowledge of project management concepts, principals, practices, and design requirements for generation assets (or facilities of comparable size, diversity, and complexity) and developed moderately complex project scopes and implementation plans.</td>
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<td>− Has a working knowledge of power generation industry including understanding of design, construction, and/or operation of rotating machines, and experience interpreting applicable codes, standards, regulations, and practices.</td>
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<td>− Can provide thorough analysis of issues, develop viable alternatives, and provide sound justification of recommendations.</td>
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<td>− Demonstrated exercise of informed judgment when making decisions and recommendations and use of technical &amp; business judgment in applying engineering and project management principles and techniques to determine cost effective and practical solutions.</td>
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<tr>
<td>− Able to function as a journey level project manager to lead multiple projects concurrently with moderate scope and/or support more experienced project managers on larger or more complex projects.</td>
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<td>− Track record of building consensus with internal and external stakeholders around moderately complex and controversial project issues and successfully persuading others to act on agreements reached.</td>
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<td>− Able to provide clear and effective technical direction and guidance to less experienced team members.</td>
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<tr>
<td>− Able to independently provide technical and/or project oversight and direction to consultants, suppliers, and construction firms to meet moderately complex project needs; understands contracting principals and options; able to negotiate and resolve contract disputes favorably.</td>
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<tr>
<td>− Understands PG&amp;E’s basic financial and business policies &amp; practices and tools, and able to apply appropriately to the cost estimating, economic analysis, justification, and approval of moderately complex projects.</td>
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<td>− Track record of taking ownership of problems and their solutions.</td>
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<td>− Able to identify gaps between current business practices and stated objectives and provide recommendations for process improvements to address gaps.</td>
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<tr>
<td>− Works with more experienced engineers and project managers to further their own development. Proactively evolves project management skills and knowledge through industry associations &amp; conferences, technical workshops, trade publications, and additional formal education.</td>
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<tr>
<td>− Strong communications and analytical skills</td>
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<td>− Good facilitation and presentation skills</td>
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<tr>
<td>− Proficient business computer skills such as Microsoft Office Suite Programs (Emphasis on Excel, Word, and MS Project)</td>
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**SENIOR PROJECT MANAGER (50216542)**

<table>
<thead>
<tr>
<th>Summary</th>
<th>This is a senior-level Project Manager who has demonstrated mastery of the Journey Project Manager job duties. In this role, people and other resources are managed indirectly as a part of a project team. The Senior-Level Project Manager is responsible for leading all aspects of the development and implementation of assigned projects, and/or water rights management as assigned. Multiple projects are managed simultaneously, with a range of moderate to high complexity. Project duration is generally multi-year, requires significant risk management, and may include formal partnering agreements with outside firms. The complexity, budget, range of internal and external entities involved, and risk to the company increase as an employee gains more experience and expertise. The position requires an extensive knowledge of the power generation or heavy industry; extensive project management skills; extensive contract management skills; excellent verbal and written communication skills; and sound judgment to independently resolve complex problems with only general direction. Represents and promotes assigned projects and their contribution to company goals. Responsibilities may include Privileged and Confidential work.</th>
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<tr>
<td>Job Duties:</td>
<td>Performs functions of the Journey level Project Managers, but for more complex, larger budget, and higher profile projects. Jobs duties will include but are not limited to:</td>
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<td>• Fully understands Power Gen safety program and requirements; looks for and resolves unsafe situations; models safe behavior through personal actions and project leadership efforts; holds themselves and others accountable for safety; and contributes to Power Gen’s safety programs.</td>
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<td>• Provides leadership, coaching, technical direction, oversight and quality control for assigned projects; also provides knowledge transfer and assistance to many technical and/or project management employees and teams.</td>
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<td>• Leads and applies extensive knowledge in project management efforts for multiple complex and/or large generation projects that can be discipline-specific, multi-discipline, programmatic in nature, or related to water rights management.</td>
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<td>• As assigned, may perform water rights management, including interpreting, preserving, investigating, tracking, records management, permitting, licensing, filing and responding to protests and complaints, reviewing and responding to water right applications and other filings by entities other than PG&amp;E, preparing and providing expert witness testimony, representing PG&amp;E in regulatory and other proceedings, providing internal expert counsel and direction, reviewing and payment of water right fees, and other tasks related to water rights.</td>
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<td>• Develops and/or evolves standards and specifications.</td>
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<td>• Proactively controls scope, schedule, cost, and quality of a large portfolio of projects throughout the asset life cycle.</td>
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<td>• Interprets, applies, and educates others in applicable industry standards, regulations, and statutes.</td>
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<td>• Provides extensive knowledge and guidance to others in start-up testing, inspections, and condition assessment; actively supports complex and/or large project start-up tests and field inspections.</td>
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<td>• Assesses project objectives for feasibility and recommends alternatives where applicable.</td>
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<td>• Provides guidance to engineering on producing complex risk and alternative analyses, studies and conceptual designs for presentation to project sponsor.</td>
</tr>
</tbody>
</table>
**SENIOR PROJECT MANAGER (50216542)**

- May provide independent oversight and administration of EPC contracts
- Develops and champions company-wide best practices
- Makes presentations to PG&E Officers, various agencies, and the public as appropriate
- Mentors and provides guidance to less experienced team members
- Uses knowledge of hydro systems to take a lead role in long term planning

**Scope**
Manages multiple complex issues and projects and resolves problems of complex scope. Supports others on programmatic solutions, process improvements, regulatory relations, contracting strategies, and very large and/or complex projects. Assignments regularly provide an opportunity for creative or non-standard approaches. Under limited general direction, independently plans and conducts work to meet assigned general objectives. Work may be reviewed upon completion; solutions may provide an opportunity for future creative/non-standard approaches.

**Interaction**
External contacts primarily include directing project-related work and contract administration with contractors and vendors; provides information to third parties (for example, government, regulatory or community groups), conducts discussions with external stakeholders, obtains approvals from regulatory agencies; and interacts with industry associations. Internal contacts are primarily with Power Gen personnel, including O&M clients and project team members, and PG&E internal services organizations. The Senior Project Manager directs project-related work, discusses and reports progress, exchanges and coordinates information, manages meetings and provides appropriate documentation. May provide technical guidance and/or oversight of work to less experienced team members.

**Job Qualifications:**

**Education**
A 4-year Bachelor’s Degree in Engineering, Construction Management, or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US. MS Degree in Engineering, Construction Management, scientific discipline or MBA is desirable.

Or 13 years of experience in significant related work experience in lieu of educational requirements.

**Licenses / Certifications**
PMP certification is required. Current and active California PE license desired. Valid driver’s license.

**Experience**
Mastery of the Journey level Project Manager job duties and demonstrated knowledge, leadership, and ability to perform the basic duties of the Senior level Project Manager. Meets specific technical requirements gained through a minimum of ten years of cumulative experience in project engineering, design, and construction (or water rights, as applicable); at least five of which must be in generation or heavy industry.

**Knowledge / Abilities**
Knowledge/abilities of Associate and Journey level Project Manager and in addition:

- Demonstrated ability to lead multiple medium to large scale complex projects; provide resolution of complex technical and/or contractual issues; and/or provide Project Management on multiple projects with complex scope requiring non-standard approaches; without supervision.
- Demonstrates extensive knowledge of the generation industry, including extensive understanding of design, construction, and/or operation of rotating machines, and experience interpreting applicable codes, standards, regulations, and practices.
- Demonstrated application of extensive project management skills,
**SENIOR PROJECT MANAGER (50216542)**

- including seasoned and experience-based judgment and organizational savvy in applying and adapting traditional project management techniques.
- Demonstrates extensive contracting knowledge and contract negotiation and management skills.
- Demonstrates excellent verbal and written communication skills; utilizes a variety of styles to connect with the intended audience; able to present complex information to upper management on a variety of topics.
- Builds consensus around complex and controversial project & technical issues and successfully persuades others to act on agreements reached.
- Track record of ensuring high quality work by self and others on project team and overseeing work of less experienced team members.
- Experienced in integrating industry knowledge and best practices into everyday business practices and decision making; provides others with interpretation and guidance on industry standards and regulations.
- Fully understands PG&E’s financial and business policies & practices, and provides guidance and oversight to incorporate into day-to-day activities.
- Ability to identify trends over multiple projects or years and take needed action to initiate practical system-wide improvements, provide recommendations, develop implementation plans, and lead implementation.
- Track record of working to further their own professional development through industry associations & conferences, technical workshops, trade publications, and additional formal education, and of mentoring less experienced project team members.
- Demonstrates extensive knowledge and abilities related to water rights and ability to apply to PG&E’s water rights.

**JOURNEY LEVEL LICENSE PROJECT MANAGER (50262563)**

**Summary**

This is a journey-level License Project Manager job that is responsible for managing one or more moderately large and complex regulatory projects (“license projects”) related to the Federal Energy Regulatory Commission (FERC) licenses and associated lands for the Company’s extensive hydroelectric system. The position may also manage license projects for emerging technologies such as wave and tidal. “Complex” refers to the overall character of a license project compared to other license projects, and includes consideration of project size, asset value, issues and risk to the Company, cost, number of external stakeholders, etc. The position helps assure the Company’s license projects are managed in compliance with applicable regulation and laws to provide reliable and cost-effective service to our customers while achieving sound environmental stewardship, a high level of social responsibility, positive stakeholder relationships and an outstanding public and employee safety record. Types of projects managed include original licenses, relicensing, license surrender, decommissioning, license transfer, major license amendments, transition to license implementation, non-routine license implementation projects, license-related programs, land conservation programs and other license-related projects. The position may also act as an assistant project manager on larger, more complex license projects. The position uses independent judgment in applying project management and regulatory concepts, principles, and practices working with minimal supervision. The position works with License Coordinators, other Project Managers, Project Analysts, Lawyers, Business Planners, Project Engineers, scientists, operating personnel, construction personnel, other business partners, contractors, and others in managing license projects. Responsibilities
### Journey Level License Project Manager (50262563)

Include, but are not limited to the traditional project management responsibilities of defining project scope and objectives; developing project teams; and leading projects from inception through closeout. Additional responsibilities specific to license projects include, but are not limited to developing project strategy; representing the project to external project participants, including resource agencies, non-governmental organizations, and other third parties; and negotiating agreements with these external project participants. Works with Supervisor on some job duties. Responsibilities may include Privileged and Confidential work.

#### Job Duties:

Job duties will vary by assignment. Job duties include, but are not limited to:

- Manages license projects including, but not limited to original licenses, relicensing, license surrender, decommissioning, license transfer, major license amendments, transition to license implementation, non-routine license implementation projects, license-related programs, land conservation programs and other license-related projects
- Leads projects from inception through closeout
- Performs traditional project management duties including, but not limited to:
  - Defines project scope and objectives
  - Plans, prepares and manages project cost estimates, economic analyses, job authorizations and annual budgets
  - Plans, prepares and manages cost plans, schedule plans and resource plans
  - Monitors and manages the project scope, schedule and cost
  - Establishes and manages project teams with agreed upon roles and responsibilities
  - Obtains commitments on detailed work plans including schedule, cost, resource, contingency and communication plans
  - Obtains management approvals as needed
  - Ensures project documentation is maintained
  - Proactively identifies, analyzes, addresses and corrects project variances and performance issues
  - Communicates project status on a regular basis to management and other stakeholders
  - Assesses project risk and formulates mitigating contingency plans
  - Provides guidance to and works with internal and external project team members
  - Coordinates with other lines of business internal and external to Power Generation to ensure project activities meet appropriate criteria, quality, and job scope.
  - Coordinates project activities among disciplines
- Identifies and communicates lessons learned and best practices
- Solicits, prepares, and evaluates proposals from contractors; awards, administers and manages contracts
- Manages the integration of contractor tasks, and tracks and reviews contractor deliverables
- Interprets and applies applicable laws and regulations
- Plans, prepares and files reports, regulatory filings and other documents
- Manages and approves reports, regulatory filings and other documents prepared by others
- Represents project to external project participants including regulatory agencies, non-governmental organizations and other third parties.
**JOURNEY LEVEL LICENSE PROJECT MANAGER (50262563)**

- Use SAP for required job duties

Works with Supervisor to:
- Prepare written and verbal project communications with regulatory agencies, non-governmental organizations and other third parties
- Manage relationships with external project participants including regulatory agencies, non-governmental organizations, contractors, and other third parties
- Negotiate project agreements with regulatory agencies, non-governmental organizations and other third parties
- Develop project strategies
- Monitor and adopt changes in industry, laws, and regulation related to hydropower

**Scope**

Manages one or more moderately complex license projects and resolves problems of moderately complex scope. Assignments typically require standard solutions, but may include a moderate level of innovation. Under general direction, independently plans work to meet assigned objectives; progress is reviewed periodically for technical accuracy and adequacy in process and upon completion.

**Interaction**

Internal contacts are with Power Generation personnel, Law Department, and other service organizations, and typically include directing project-related work, reporting and discussing project matters, exchanging, interpreting and coordinating information, managing meetings and developing and providing documents. External contacts, which typically involve discussion with more senior Project Managers or Supervision in advance, are with contractors, regulatory agencies, non-governmental organizations, and other third parties. Contacts with contractors typically include directing project-related work, and discussing contract administration and results. Other external contacts typically include reporting and discussing project matters, exchanging, interpreting and coordinating information, managing meetings, developing and providing documents, and negotiating. Provides guidance to team members. May partner with internal or external stakeholders to solve problems or explore alternative solutions.

**Job Qualifications:**

<p>| Education | A 4-year BS/BA Degree in Engineering*, Project Management, Regulatory Policy, Resource Management, Biological or Ecological Science, Law, Business or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US required. Advanced degree in same fields desired. | * See Pay Band table for difference in compensation for individuals with or without Engineering degree or license. |
| Licenses / Certifications | Engineering or Project Management Professional certification desired. Valid driver’s license. | |
| Experience | Mastery of Associate level Project Engineer or Journey level License Coordinator job duties or applicable equivalent, and demonstrated knowledge and ability to perform the basic duties of the Journey Level License Project Manager. Meets specific knowledge/ability requirements gained through a minimum of three years of cumulative experience in project engineering, Journey-level license coordination, or applicable equivalent. | |
| Knowledge | Demonstrates knowledge and abilities required for the Associate level Project | |</p>
<table>
<thead>
<tr>
<th>Abilities</th>
<th>Engineer, Journey level License Coordinator or equivalent and also:</th>
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<tbody>
<tr>
<td></td>
<td>- Prioritizes, plans, and develops solutions for moderately complex projects.</td>
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<td>- Approaches and plans work in an organized manner to meet project commitments.</td>
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<td>- Shows initiative and takes action proactively.</td>
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<td>- Coordinates well with others, and has basic understanding of the roles and responsibilities of License Project Managers.</td>
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<td>- Able to work with limited supervision and guidance to meet project commitments.</td>
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<td>- Able to work with internal and external stakeholders.</td>
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<td>- Able to understand and implement the requirements of interfacing disciplines.</td>
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<td>- Demonstrates informed judgment when making decisions and recommendations.</td>
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<td>- Uses judgment in applying project management and regulatory principles and techniques to determine cost-effective and practical solutions.</td>
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<td>- Ability to manage and complete several license projects concurrently, depending on scope and complexity.</td>
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<td>- Accurately Interprets applicable laws, standards and regulations and educates others.</td>
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<td>- Can provide thorough analysis of issues and justification of recommendations.</td>
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<td>- Takes ownership of problems and their solutions.</td>
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<td>- Demonstrates ability and desire to effectively engage others, including external stakeholders, in discussion and present clear and well-reasoned positions for desired ideas and proposals.</td>
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<td>- Able to collaboratively negotiate and build consensus with external parties and reach agreement on moderately complex issues.</td>
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<td>- Sees the big picture. Understands organization and individual roles. Journey level strategic and critical thinking skills. Able to develop and implement strategies and tactics to address moderately complex issues.</td>
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<td>- Demonstrates ability to make clear, persuasive presentations of basic information in internal and external settings.</td>
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<td>- Demonstrates ability to organize ideas and communicate effectively orally and in writing both informally and in formal business settings. Communications demonstrate strategic and critical thinking skills. Demonstrates ability to craft effective correspondence, reports, filings, applications, agreements and proposed license conditions.</td>
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<td>- Shares information and lessons learned with co-workers to promote efficient learning and development within the organization. Helps train and mentor project team members and others.</td>
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<td>- Demonstrates ability to develop and maintain constructive relationships with individuals and teams both internally and externally including with difficult individuals.</td>
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<td>- Has received formal project management training. Able to effectively develop and manage moderately complex license projects, parts of complex license projects, Demonstrates ability to achieve project objectives on schedule and within authorized cost.</td>
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<td>- Demonstrates ability to understand and correctly interpret regulations and requirements, meet difficult time constraints, meet all regulatory requirements and maintain accurate, timely compliance records.</td>
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</table>
**JOURNEY LEVEL LICENSE PROJECT MANAGER (50262563)**

- Understands and helps develop and implement project strategies. Proficient at achieving desired project results.
- Demonstrates ability to understand complex regulatory, operations and maintenance, engineering, and environmental issues; develop, evaluate and support alternatives and concerns; and prepare well organized presentations and documentation of results.
- Knowledgeable about current hydro issues, seeks deeper understanding of issues.
- Understands and is able to apply contract principles, able to develop bid packages, evaluate proposals and effectively manage moderately complex contracts
- Understands Company basic financial and business policies and practices. Able to prepare cost estimates, perform economic analyses, and prepare project justifications for moderately complex projects.
- Able to identify gaps between current business practices and stated objectives and provide recommendations for process improvements to address gaps.
- Proactively evolves license coordination and project management skills and knowledge through industry associations & conferences, technical workshops, trade publications, and additional formal education.

**SENIOR LEVEL LICENSE PROJECT MANAGER 50262564)**

**Summary**

This is a senior-level License Project Manager job that requires mastery of the Journey License Project Manager job duties and is responsible for managing one or more high profile and complex regulatory projects (“license projects”) related to the FERC licenses and associated lands for the Company’s extensive hydroelectric system. The position may also manage high profile and complex license projects for emerging technologies such as wave and tidal. “Complex” refers to the overall character of a license project compared to other license projects, and includes consideration of project size, asset value, issues and risk to the Company, cost, number of external stakeholders, etc. The position applies extensive knowledge of, and skills in, project management and regulatory concepts, principles, and practices to manage complex regulatory projects and resolve complex problems with only general direction. Additional responsibilities beyond the Journey level License Project Manager include, but are not limited to, the following: providing leadership, coaching, training, technical direction, oversight, quality assurance, knowledge transfer and assistance to Journey level License Project Managers, other employees and teams; delivering high-profile presentations in challenging external settings; leading team meetings on complex project issues; interpreting laws, regulations and standards for broad use; taking a lead role in managing external relationships with regulatory agencies and third parties that may extend beyond single projects; taking a lead role in developing project strategies; developing or assisting in the development of new or updated project management processes, systems, guidelines and standards; taking a lead role in monitoring and adopting changes in the industry, laws, and regulation related to hydropower; and participating in external industry forums. Works with Supervisor on some job duties. Responsibilities may include Privileged and Confidential work.

**Job Duties:**

Performs functions of Journey level License Project Managers, but for more high profile and complex projects. Also performs job duties listed below. Job duties will vary by assignment.
**Senior Level License Project Manager 50262564)**

**Additional Job duties include, but are not limited to:**
- Leads, coaches, directs and assists employees and teams on project management issues. May act as a mentor to Journey License Project Managers.
- Provides regulatory project management support to other departments.
- Manages one or more high profile and complex license projects as may be assigned.
- Develops or assists in the development of new or updated project management processes, systems, guidelines and standards.

**Works with Supervisor to:**
- Negotiate with regulatory agencies, non-governmental organizations and other third parties on complex project issues that may affect more than one project.
- Take leadership role in managing external relationships with regulatory agencies, non-governmental organizations, contractors and other third parties.
- Take leadership role in developing project strategies.
- Take a leadership role in monitoring and adopting changes in industry, laws, and regulation related to hydropower.
- Participate in external and industry forums.

**Scope**
Manages one or more high profile and complex license projects and resolves problems of complex scope. Assignments may provide an opportunity for creative or non-standard approaches. Under general direction, independently plans work to meet assigned general objectives. Work may be reviewed in process and upon completion; solutions may provide an opportunity for creative/non-standard approaches.

**Interaction**
Internal contacts are with Power Generation personnel, Law Department, and other service organizations at the senior and management level, and typically include reporting and discussing regulatory matters, exchanging, interpreting and coordinating information, managing meetings and developing and providing documents. External contacts, which may involve discussion with Supervision in advance, are with contractors, regulatory agencies, non-governmental organizations, and other third parties at the senior staff level. Contacts with contractors typically include directing work, discussing contract administration and results. Other external contacts typically include reporting and discussing regulatory matters, exchanging, interpreting and coordinating information, managing meetings, developing and providing documents, and negotiating. May provide direction to less experienced License Project Managers and other team members. May partner with internal or external stakeholders at the senior staff level to solve problems or explore alternative solutions.

**Job Qualifications:**

### Education
A 4-year BS/BA Degree in Engineering*, Project Management, Regulatory Policy, Resource Management, Biological or Ecological Science, Law, Business or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US required. Advanced degree in same fields desired.

* See Pay Band table for difference in compensation for individuals with or without Engineering degree or license.
### Senior Level License Project Manager 50262564

<table>
<thead>
<tr>
<th>Licenses / Certifications</th>
<th>Engineering or Project Management Professional certification required. Valid driver’s license.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experience</td>
<td>Mastery of the Journey level Project Engineer or License Project Manager job duties, or applicable equivalent, and demonstrated knowledge and ability to perform the basic duties of the Senior level License Project Manager. Meets specific knowledge/ability requirements gained through a minimum of six years of cumulative experience in regulatory project management.</td>
</tr>
</tbody>
</table>
| Knowledge / Abilities      | Demonstrate knowledge and abilities required for Journey level License Project Manager and also:  
- Demonstrates ability to handle multiple high profile, large budget, and complex license projects without supervision.  
- Demonstrates good presentation skills including knowledge transfer presentations.  
- Able to lead license project management teams including outside contractors.  
- Successfully completes assignments of broad scope and complexity.  
- Able to integrate information from a variety of sources.  
- Demonstrates ability and desire to effectively engage others, including external stakeholders, in discussion and present clear and well-reasoned positions for complex ideas and proposals.  
- Demonstrates ability to collaboratively negotiate and build consensus with external parties and reach agreement on complex and difficult issues.  
- Sees the big picture. Deep understanding of department and individual roles. Strong strategic and critical thinking skills. Demonstrates ability to develop and implement strategies and tactics to address complex and difficult issues.  
- Demonstrates ability to make clear, persuasive presentations on complex issues in large internal or external settings that may be difficult or contentious.  
- Demonstrates strong ability to organize ideas and communicate orally and in writing on complex topics informally and in formal business settings both internal and external. Communications demonstrate strong strategic and critical thinking skills. Demonstrates skilled ability to craft effective correspondence, reports, filings, applications, agreements and proposed license conditions. Able to critically review communications prepared by others.  
- Seeks opportunities to share information and lessons learned with co-workers to promote efficient learning and development within the organization. Helps train and mentor Journey License Project Managers and others.  
- Demonstrates ability to develop, maintain and nurture constructive relationships with individuals and teams, internally and externally in the face of adversity. Acts as a positive influence on internal and external team dynamics to achieve more effective outcomes.  
- Demonstrates ability to effectively develop and manage multiple, complex license projects. Demonstrates ability to effectively balance priorities, maintain an efficient team organization and achieve project objectives on schedule and within authorized cost. Demonstrates ability to continually evaluate engineering, operations and maintenance, environmental, regulatory and strategic options and make effective adjustments as conditions change.  
- Demonstrates ability to understand and correctly interpret complex regulations and requirements, meet difficult time constraints, meet all |
### Senior Level License Project Manager (50262564)

<table>
<thead>
<tr>
<th>Summary</th>
<th>Performs the functions of Journey and Senior level Project Engineer and/or License Project Manager, but for more complex, larger budget, higher risk exposure, and higher profile projects. Jobs duties will vary by assignment. In addition, job duties include, but are not limited to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>regulatory requirements and maintain accurate, timely compliance records. Demonstrates ability to develop and implement effective regulatory strategies. Expert at achieving desired regulatory results. Assists in industry and legislative and regulatory matters.</td>
<td>- Demonstrates ability to understand complex regulatory, operations and maintenance, engineering and environmental issues; independently develop, evaluate and support creative solutions, alternatives and concerns; prepare and present clear, well organized presentations and documentation for internal and external decision makers.</td>
</tr>
<tr>
<td>- Demonstrates ability to understand complex regulatory, operations and maintenance, engineering and environmental issues; independently develop, evaluate and support creative solutions, alternatives and concerns; prepare and present clear, well organized presentations and documentation for internal and external decision makers.</td>
<td>- Highly knowledgeable about current hydro issues, seeks deeper understanding of issues, and interacts effectively with other industry representatives and organizations.</td>
</tr>
<tr>
<td>- Demonstrates ability to develop bid packages, evaluate proposals, award contracts and effectively manage large and complex contracts.</td>
<td>- Understands and able to apply advanced contracting principles. Demonstrated ability to develop bid packages, evaluate proposals, award contracts and effectively manage large and complex contracts.</td>
</tr>
<tr>
<td>- Understands Company financial and business policies and practices. Demonstrates ability to prepare complex cost estimates, perform complex economic analyses, prepare complex project justifications, and to critically review those prepared by others. Demonstrates ability to make effective financial and business presentations.</td>
<td>- Able to identify gaps between current business practices and stated objectives and takes the lead for process improvements to address gaps.</td>
</tr>
<tr>
<td>- Proactively evolves license coordination and project management skills and knowledge through industry associations &amp; conferences, technical workshops, trade publications, and additional formal education.</td>
<td></td>
</tr>
</tbody>
</table>

### Senior Consulting Project Engineer (50262565)

<table>
<thead>
<tr>
<th>Summary</th>
<th>This is a senior consulting-level project engineer job that requires mastery of the senior project engineer or senior license project manager duties and is routinely requested by management to lead, as assigned, engineering &amp; design, project management, program management, and/or regulatory project management for the most complex and high risk exposure business endeavors, very large capital and expense improvements to power generation facilities, and/or high profile or highly contentious regulatory projects. The Senior Consulting Project Engineer is a widely recognized generation expert within the company and with external partners and stakeholders; is requested to apply expert judgment and extensive knowledge of the generation industry to research and develop new/unique solutions; develops and applies extensive risk management and programmatic approaches for high risk and/or system-wide issues; and/or applies extensive project management and contracting knowledge and negotiation skills to resolve complex challenges; and/or negotiates and resolves broad or complex settlement and license agreements. They are routinely requested by management to apply their expertise to projects they don’t otherwise manage, and at a programmatic level. Provides extensive leadership, coaching and development of less experienced engineers and project managers. Provides high-level technical briefings, advice, and recommendations to upper management. Responsibilities may include Privileged and Confidential work.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Duties:</td>
<td>Performs the functions of Journey and Senior level Project Engineer and/or License Project Manager, but for more complex, larger budget, higher risk exposure, and higher profile projects. Jobs duties will vary by assignment. In addition, job duties include, but are not limited to:</td>
</tr>
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</tr>
<tr>
<td><strong>Senior Consulting Project Engineer (50262565)</strong></td>
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<td>--------------------------------------------------</td>
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</tbody>
</table>
| - Applies extensive generation expertise to develop strategic and tactical strategies and solutions for the most complex business endeavors.  
- Manages multiple large highly complex engineering, construction, and/or regulatory projects, programs, outages, and contracts.  
- Develops and applies extensive risk management and programmatic approaches for high risk, high visibility, and/or system-wide issues.  
- Acts as a company witness, liaison, and/or information provider on complex issues to outside parties; presents clear, concise, and well-reasoned positions for desired ideas and proposals.  
- Collaboratively negotiates and resolves broad or complex settlement agreements with multiple external parties involving high value, highly contentious, or critical regulatory projects.  
- Represents PG&E at external industry associations, committees, trade organizations and other inter-utility groups.  
- Researches and develops innovative solutions to solve challenging technical and regulatory issues.  
- Develops strategies and provides negotiation leadership on high risk and/or highly complex contracts and regulatory issues.  
- Performs complex and advanced engineering system modeling, analyses, studies, and develops conceptual designs.  
- Provides expert technical support in incident investigations and root cause analysis and makes recommendations to address local and system-wide problems.  
- Provides high-level technical briefings, advice, and recommendations to upper management.  
- Develops technical policies, procedures, and leads the development of standards, specifications, construction documents, and guidelines.  
- Interprets, clarifies, and educates others in applicable industry standards, and regulatory codes and regulations.  
- Provides expert knowledge and guidance to others in design reviews, start-up testing, inspections, and condition assessment; actively supports complex and/or large project start-up tests and field inspections.  
- Develops and nurtures constructive relationships with internal and external individuals and teams  
- Provides extensive leadership, coaching and development of less experienced engineers and project managers.  
- Routinely requested by management to apply their expertise to projects they don’t otherwise manage, and at a programmatic level. |

**Scope**

Routinely requested by management to apply extensive generation expertise to develop strategic and tactical strategies and solutions for the most complex business endeavors, including on projects they don’t otherwise manage and at the programmatic level. Manages multiple complex, high risk, or very large engineering, construction, and/or regulatory projects and resolves problems of very complex scope. Is widely recognized and serves as an expert within area of specialization to meet high level business needs. Regularly expected to apply creativity or new approaches to assignments that may be unique. Regularly takes a leadership role on technically or regulatory complex projects. Customarily and regularly uses discretion and independent judgment in fulfilling these job functions. Regularly supports Directors, Managers, Principals, and Supervising engineers and project managers on programmatic solutions, process improvements, regulatory relations and strategies, and contracting strategies.
### SENIOR CONSULTING PROJECT ENGINEER (50262565)

**Interaction**
Externally, establishes and maintains good relations with counterparts and higher level representatives in third party organizations, e.g., governmental, regulatory, business partner or community entities, using skilled negotiation, tact and diplomacy. Internal contacts are primarily with Power Gen personnel, Law Department, PG&E internal services organization, and company management at the officer, director and manager level. Serves as the most senior level technical expert on the team. May partner with internal or external stakeholders to solve problems or explore alternative solutions. Often is a technical coach for others.

**Job Qualifications:**

<table>
<thead>
<tr>
<th>Education</th>
<th>Meets qualifications for Senior Project Engineer or Senior License Project Manager.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Licenses / Certifications</td>
<td>Meets qualifications for Senior Project Engineer or Senior License Project Manager.</td>
</tr>
<tr>
<td>Experience</td>
<td>Mastery of the Journey and Senior level Project Engineer or License Project Manager job duties and demonstrated knowledge, leadership, and ability to perform the duties of the Senior Consulting Project Engineer. Meets specific knowledge/technical requirements gained through a minimum of twenty years of cumulative experience in engineering, design, construction, and/or regulatory project management; at least fifteen of which must be in generation or heavy industry for project engineering and management or at least 10 years in hydro regulatory management, depending on assignment.</td>
</tr>
<tr>
<td>Knowledge / Abilities</td>
<td>Demonstrates knowledge and abilities required for the Journey and Senior level Project Engineer or License Project Manager and also:</td>
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<tr>
<td></td>
<td>- Demonstrates ability to lead design of multiple large scale complex projects; provide resolution of complex technical and contractual issues; and/or provide Project Management on multiple large scale projects with complex scope requiring non-standard approaches; and/or provide Project Management on very complex, high profile, or highly contentious regulatory projects, with very limited supervision. Has an established track record of successful leadership of technical and/or regulatory endeavors in power generation which have consistently yielded positive outcomes for the company.</td>
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<td>- Demonstrates expert-level knowledge of the generation industry concepts, principles, standards, practices, and regulatory requirements in area of expertise to resolve complex problems.</td>
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<td>- Provides leadership, direction, and coaches and develops less experienced engineers and project managers.</td>
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<td>- Demonstrates expert-level project management skills, including judgment in applying and adapting traditional project management techniques; development of strategic and tactical strategies for risk management, outage optimization, external stakeholders, contracting, and resource management; increased focus on long-term planning and multiple project execution; provides complex economic analyses; organizational savvy and ability to effectively leverage informal and formal techniques to deliver results; and development of effective metrics to measure performance.</td>
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<td></td>
<td>- Demonstrated expert-level regulatory project management skills, including presentation of clear, concise, and well-reasoned positions on complex issues for desired ideas and proposals; collaboratively negotiate with external parties to reach agreements on complex, high profile, difficult and contentious issues; development and implementation of regulatory strategic and tactical strategies; expert-level ability to craft effective correspondence, fillings, applications,</td>
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</tbody>
</table>
**Senior Consulting Project Engineer (50262565)**

agreements, and proposed license conditions; develop, maintain, and nurture constructive relationships with individuals and teams in the face of adversity and effectively leverage relationships strategically to achieve more effective outcomes; understand and correctly interpret regulations and requirements and develop and implement effective strategies for desired results; effectively advocate company positions in industry, regulatory, and legislative matters.

- Demonstrates extensive contracting knowledge and contract negotiation and management skills.
- Successfully negotiate cost effective solutions beneficial to our customers and PG&E.
- Complete complex assignments with few or no precedents or standards.
- Demonstrates exceptional verbal and written communication and presentation skills.
- Able to effectively facilitate large project & group meetings, including external participants.
- Builds consensus around complex and controversial project & technical issues and successfully persuades others to act on agreements reached.
- Demonstrates ability to ensure high quality work by self and others in discipline and/or project team; develops design standards & specifications; conducts effective design reviews; and approves work of less experienced engineers and project managers.
- Seeks opportunities to build organization’s understanding of technical information, processes, and tools; demonstrates the ability to effectively transfer knowledge; develops and provides effective training.
- Readily integrates industry knowledge and best practices into everyday business practices and decision making; provides others with interpretation and guidance on industry standards and regulations.
- Proactively identifies trends over multiple projects or years; takes needed action to initiate practical system-wide improvements, provides recommendations, develops implementation plans, and leads implementation.
- Proactively evolves engineering, project management, and regulatory skills and knowledge through industry associations & conferences, technical workshops, trade publications, and additional formal education.

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**Plant Engineer (50262812)**

**Summary**

This Journey Level Plant Engineer position is the first in a progression; the job performs tasks of limited scope under the guidance of the plant manager, maintenance supervisor and the operations supervisor. This job provides engineering and technical support to O&M staff, for small to medium capital and expense, improvements to power generation and infrastructure facilities at fossil fueled power plants.

**Job Duties:**

Initial assignments from the tasks below will require direction and supervision; with experience the independence and responsibility will expand and the need for supervision will decrease. Jobs duties will vary by assignment and include, but are not limited to:
<table>
<thead>
<tr>
<th><strong>PLANT ENGINEER (50262812)</strong></th>
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<tbody>
<tr>
<td>- Fully understands Power Gen safety program and requirements; looks for and resolves unsafe situations; models safe behavior through personal actions and design efforts; holds themselves and others accountable for safety; and contributes to Power Gen’s safety programs.</td>
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<tr>
<td>- Provides overall engineering support to operations and maintenance personnel to promote safe, reliable and efficient operation of the assigned plant.</td>
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<tr>
<td>- Provides assistance to plant management staff with appropriate design criteria and calculations; ensures proper checking, design reviews, approvals, and documentation.</td>
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<td>- Ensures all drawings affected by design changes are updated in a timely manner to reflect as-built conditions.</td>
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<td>- Assists the plant management team to ensure facility adherence to site design change management process.</td>
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<tr>
<td>- Provides support in the review and validation of O&amp;M procedures, assures they are kept accessible and updated.</td>
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<tr>
<td>- Works with operations and maintenance to diagnose and troubleshoot plant control, electrical and mechanical systems as needed.</td>
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<tr>
<td>- Assists the plant management team to manage document control and plant library at assigned facility.</td>
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<td>- Actively participate in plant environmental compliance issues. Principal backup responsibility to the environmental compliance manager including assisting the site compliance manager in compliance reporting.</td>
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<tr>
<td>- Actively participate in root cause investigations.</td>
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<tr>
<td>- Participates and provides engineering review of Management of Change efforts including Process Safety Management initiatives.</td>
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<tr>
<td>- Investigates resources required to complete engineering and plant-related tasks.</td>
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<tr>
<td>- Under direction, evaluates and makes recommendations to resolve plant equipment problems. Supports start-up tests and equipment inspections as assigned.</td>
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<tr>
<td>- Assists the plant management team in conducting performance evaluations of power plant systems, major components and to conduct equipment performance tests as needed.</td>
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<tr>
<td>- Assists plant personnel to monitor unit efficiency using plant performance tools to identify and troubleshoot deviations from expected values.</td>
</tr>
<tr>
<td>- Assists the plant management team to provide technical direction to Design Engineers and Drafters; including quality checking of all work;</td>
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<tr>
<td>- In emergencies, promptly responds to facility failures to support assessment and corrective actions as needed.</td>
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<tr>
<td>- Supports plant management staff by assisting in the following:</td>
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</table>
PLANT ENGINEER (50262812)

- Ensures the proper use of the CMMS
  - Other duties as assigned as related to Engineering by Plant Management.

Scope
External contacts typically involve oversight by more experienced plant management and include directing plant-related work and contract administration with contractors; and providing information and conducting limited discussions with external stakeholders.

Interaction
Internal contacts are primarily with Power Gen personnel, including O&M clients and plant team members, and PG&E internal services organizations.

Job Qualifications:

Education
A 4-year BS Degree in Engineering from an accredited curriculum in the US or the equivalent from outside the US is required.

Licenses / Certifications
Successful completion of California E.I.T. examination. Current and active California PE license desired.

Experience
At least 18 months of engineering experience specifically with the fossil fueled power generation technology in use at the subject plant.

SENIOR PLANT ENGINEER (50405464)

Summary
This is a Senior level Engineer job that works under the direction of the plant manager and is typically as the sole engineering representative at the site. As such, the Plant Engineer must be well rounded with the ability to work in multiple arenas. The Job Duties listed below depend on a thorough understanding of the generation technology in use at the site and will be dominated by Production Support and Monitoring Plant Performance. This position is also responsible for providing facility personnel with technical engineering support for routine projects, including, but not limited to: providing technical data; applying engineering principles to investigate, analyze, and propose solutions to technical issues; oversee or conduct engineering design review, and in the review of applicable engineering documents.

Job Duties:

Production Support: Works with the operations and maintenance teams to provide engineering support for plant projects. Assists maintenance team in short and long term outage and non-outage planning, leads the facility in root cause analysis and forced event reporting. Also assists the site safety lead with accident investigation and assists the plant manager with the annual budget process.

Monitor Plant Performance: Works with plant operations and maintenance personnel to resolve and correct performance deficiencies. Uses familiarity with the facility equipment and engineering expertise to identify and communicate safety, performance, or reliability concerns. Monitors unit efficiency and identifies and troubleshoots deviations from expected values.

Develops & manages tools: Works with the power management/dispatch group to develop and maintain a detailed plant cost analysis tool for use in dispatching the facility in all conditions. Develops facility technical policies, procedures, and contributes to the development of facility standards, specifications and guidelines.

Project / Outage Support: Provide technical support during major and minor
<table>
<thead>
<tr>
<th><strong>SENIOR PLANT ENGINEER (50405464)</strong></th>
</tr>
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<tbody>
<tr>
<td><strong>Scope</strong></td>
</tr>
<tr>
<td>Resolves problems of a broad scope. Assignments typically require from standard to complex solutions. Assignments are regularly reviewed by the Plant Manager. Responsible as back-up for the facility environmental manager, and fills in for Plant Manager at some meetings and may provide vacation relief for Plant Manager. Customarily and regularly uses discretion and independent judgment in fulfilling these job functions.</td>
</tr>
<tr>
<td><strong>Interaction</strong></td>
</tr>
<tr>
<td>Internal contacts are with the facility management team to resolve plant performance issues, provide technical expertise as requested and to interact with system dispatch to maintain plant performance and dispatch tools.</td>
</tr>
</tbody>
</table>

| **Job Qualifications:**              |
| **Education**                       |
| A 4-year BS Degree in Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US is strongly preferred. |
| **Licenses / Certifications**       |
| Current and active California PE license is strongly preferred. |
| **Experience**                      |
| Five to ten years power plant experience specifically with the power generation technology in use at the subject plant. Greater experience within this range is required for individuals without an engineering degree. |
| **Knowledge / Abilities**            |
| Able to apply basic engineering principles and theory. Prioritizes, plans, and recommends solutions for routine projects. Effectively communicates both written and orally. Approaches and plans work in an organized manner to meet project commitments. Demonstrates good judgment when making decisions and recommendations. Ability and willingness to work overtime to support plant operation and maintenance. (Occasional phone calls during off hours are to be expected.) |

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<thead>
<tr>
<th><strong>JOURNEY LEVEL PROJECT MANAGEMENT ANALYST (50216537)</strong></th>
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<tbody>
<tr>
<td><strong>Summary</strong></td>
</tr>
<tr>
<td>This is a Journey level Project Management Analyst who works with the direction of more senior PM Analysts, Project Managers, Project Engineers, Business Planners and a supervisor. The position provides project oversight, control and analysis for capital and expense improvement projects and/or FERC relicensing and license compliance projects for hydro power and/or fossil fired and infrastructure facilities. Multiple projects are supported simultaneously. The position requires a thorough understanding of project cost and schedule controls and project management methodologies, strong computer skills, and enhanced verbal and written communication skills. Employee works independently with general direction and applies judgment to set priorities and complete tasks. Responsibilities may include Privileged and Confidential work.</td>
</tr>
<tr>
<td><strong>Job Duties:</strong></td>
</tr>
<tr>
<td>Position responsibilities include assisting project leads (Project Managers and Project Engineers) with management and successful completion of projects, on time and within budget, and assisting supervisors and managers through analysis and reporting on projects and programs. Job duties may vary by</td>
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</tbody>
</table>
assignment but demand more in-depth skill and knowledge, involve more complex projects and analysis and greater autonomy as skill and experience develop. Duties for Journey level PM Analysts are completed under general direction from project leads and supervisors; complexity and autonomy of assignments increase as an employee gains more experience and expertise. In addition, job duties include, but are not limited to:

- Assist project leads as needed to obtain management approval of projects and budgets, including independently drafting and developing project authorization requests, cost estimates, economic analyses, project justification, and other supporting documents some direction from project lead and other team members.
- Efficiently and accurately perform monitoring and analysis functions for the various projects. Work in collaboration with project leads and project teams to develop and maintain project schedules and monitor cost status and forecasts. Analyze schedule start and duration variances. Perform targeted SAP queries to extract financial performance data.
- Maintains written and electronic project documentation and records for required aspects of the project in accordance with established guidelines and requirements.
- Maintains order groups by managing orders from inception through completion and closure.
- Analyze and trend cost and schedule variances against authorized and budgeted cost plans. Alert team when corrective actions are needed, including anticipating future problems based on trends. Analyze actual charges to validate their correctness and appropriateness, and take corrective measures when appropriate. Provide project leads and project team members with status information and milestones that will ensure timely decisions that will take advantage of changing circumstances and resource availability.
- Independently prepare and maintain project status reports, programmatic spreadsheets, project database updates and various management communication reports (in coordination with project lead). Recommends and implements improvements to these systems.
- Assist project leads with procurement and contracting activities including but not limited to drafting of contract documents under direction of project lead; work directly with contractors to resolve errors and questions concerning invoices.
- Recommend improvements to assist in maintaining and updating Project Management Guidelines, including recommending process improvements. Assist in updating Project Management website.
- Proactively support attaining Departmental objectives.
- Assist project leads with coordination and documentation of project kickoff meetings, walk downs, lessons learned meetings, and design review meetings. Occasionally stand in for project lead when he or she is not available.
- Mentor newer employees and assist in training and developmental functions.
- Will support management on analyst related job duties as needed.

Scope

Supports multiple projects by providing cost and schedule reporting and analysis and other project documentation. Assignments typically require proficiency with company systems and analysis techniques and require some direction from project leads and supervisor. Work progress is reviewed occasionally for technical accuracy and adequacy in process and upon completion. Represents project lead when he or she is not available. May provide guidance and/or review of work of less experienced team members. May partner with internal or external stakeholders to solve problems or explore
**JOURNEY LEVEL PROJECT MANAGEMENT ANALYST (50216537)**

- alternative solutions.

### Interaction

External contacts primarily include project-related work and support contract administration with contractors and vendors. May include some interaction with agencies or non-governmental organizations. Internal contacts are primarily with Power Gen personnel, including O&M clients, business planners, project team members, and PG&E internal services organizations and typically include supporting project-related work, documenting and reporting progress, exchanging and coordinating information, documenting meetings and providing appropriate documentation.

### Job Qualifications:

#### Education

A 4-year BS/BA Degree in Engineering, Construction Management, a scientific discipline, economics, finance or business administration from an accredited curriculum in the US or the equivalent from outside the US is required. A minimum of 5 years of applicable work experience (such as in accounting, construction management, project scheduling or controls) with responsibilities similar to those required for this classification is acceptable in lieu of formal education.

#### Licenses / Certifications

- Project Management Certification desired.

#### Experience

- Meets specific technical requirements gained through education or experience as specified above.

#### Knowledge / Abilities

- Demonstrates knowledge and as described below:
  - Strong computer skills, including competency with SAP, MS-Word and Excel; competent with databases and project scheduling software.
  - Able to complete assignments independently and meet commitments based on general direction including when tasks are complex and require experience-based judgment to accomplish.
  - Able to support several projects concurrently, prioritizing tasks appropriately depending on the needs of respective projects.
  - Applies sound knowledge of project management concepts, principals, practices, and requirements for power generation assets to help with development and documentation of project scopes and implementation plans.
  - Can create and provide detailed analysis of cost and schedule reports and is able to identify key information.
  - Demonstrates experienced judgment when making decisions and recommendations; uses technical & business judgment to determine cost effective and practical solutions.
  - Able to function as a Journey level Project Management analyst on multiple large and moderately complex projects, and is able to develop CPM schedules, detailed cost plans, project resource plans, and project authorization and justification documentation for these projects.
  - Able to communicate a variety of topics effectively; and utilize a variety of styles in order to connect with the intended audience; able to present moderately complex project information in informal and formal group settings; promotes greater understanding by providing background information and analysis rational.
  - Demonstrates strong proficiency in written and verbal communication skills.
  - Able to facilitate routine project meetings & walk downs.
  - Understands PG&E’s basic financial and business policies and practices, and is able to apply them appropriately to the cost estimating, economic analysis, justification, and approval of small to moderately complex projects. Proficiency with company systems including but not limited to SAP, EDRS, and SRM.
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<thead>
<tr>
<th><strong>JOURNEY LEVEL PROJECT MANAGEMENT ANALYST (50216537)</strong></th>
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<tbody>
<tr>
<td>- Track record of Identifying process improvements, and taking ownership of problems and their solutions.</td>
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<tr>
<td>- Able to mentor less senior employees and demonstrate ability to assist in training and development of technical skill-sets with others.</td>
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<tr>
<td>- Applies sound judgment, forward thinking, takes initiative, and acts as a team player when performing job function.</td>
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<tr>
<th><strong>SENIOR LEVEL PROJECT MANAGEMENT ANALYST (50262813)</strong></th>
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<tbody>
<tr>
<td><strong>Summary</strong> This is a Senior level Project Management Analyst who provides support to a broad portfolio of Project Managers, Project Engineers, Business Planners and a supervisor. The position provides project oversight, control and analysis for capital and expense improvement projects and/or FERC relicensing and license compliance projects for fossil fired and/or hydro power and infrastructure facilities. Multiple projects are supported simultaneously. The employee also coaches and mentors others, and initiates and leads process improvement efforts. The position requires expert level understanding of project cost and schedule controls and project management, exceptional computer skills, and enhanced verbal and written communication skills. Employee works independently with limited direction and applies judgment to set priorities and complete tasks. Responsibilities may include Privileged and Confidential work.</td>
</tr>
<tr>
<td><strong>Job Duties:</strong> Position responsibilities include assisting project leads with management and successful completion of projects, on time and within budget, and assisting supervisors and managers through analysis and reporting on projects and programs. Job Duties will vary by assignment and include those of a Journey level PM Analyst, but demand more in-depth skill and knowledge, involve more complex projects and analyses, and significant autonomy. Duties for Senior level PM Analyst are completed under general direction from project leads and supervisors; complexity and autonomy of assignments increase even further as an employee gains more experience and expertise. In addition, job duties include, but are not limited to:</td>
</tr>
<tr>
<td>- Proactively assist project leads to obtain management approval of projects and budgets, including independently drafting and developing project authorization requests, cost estimates, economic analyses, project justification, and other supporting documents with limited direction from project lead.</td>
</tr>
<tr>
<td>- Coaches less senior PM Analysts in their development and maintenance of project schedules, cost plans, and other project controls. Perform complex and customized SAP queries to extract financial performance data. Develops new tools and templates for other PM Analysts to use in their work.</td>
</tr>
<tr>
<td>- Provides review, edit and comment upon work products of less senior PM analysts on behalf of the job lead and/or supervisor.</td>
</tr>
<tr>
<td>- Takes lead in maintaining and updating Project Management Guidelines, including recommending process improvements.</td>
</tr>
<tr>
<td>- Identifies opportunities to improve analyst tools, methodologies, or processes and proactively works with supervisors or other team members to implements improvements.</td>
</tr>
<tr>
<td>- Provide mentoring and leadership to less senior PM Analysts to support attaining Departmental objectives.</td>
</tr>
<tr>
<td>- Assist project leads with coordination and documentation of project kickoff meetings, walk downs, lessons learned meetings, and design review meetings.</td>
</tr>
<tr>
<td>–May function as project lead on small or short duration projects, and/or when...</td>
</tr>
<tr>
<td><strong>SENIOR LEVEL PROJECT MANAGEMENT ANALYST (50262813)</strong></td>
</tr>
<tr>
<td>------------------------------------------------------</td>
</tr>
<tr>
<td>a project lead is away (e.g., on vacation).</td>
</tr>
<tr>
<td>- Will support management on analyst related job duties as needed.</td>
</tr>
<tr>
<td><strong>Scope</strong></td>
</tr>
<tr>
<td>Supports multiple projects by providing cost and schedule reporting and analysis and other project documentation. Assignments typically require expert knowledge of company systems and analysis techniques and require very limited direction from project leads and supervisor. Work requires limited review for technical accuracy and adequacy in process and upon completion. Represents project lead when he or she is not available. Routinely provides guidance and/or review of work of less experienced team members. Partners with internal or external stakeholders to solve problems or explore alternative solutions.</td>
</tr>
<tr>
<td><strong>Interaction</strong></td>
</tr>
<tr>
<td>External contacts primarily include project-related work and support contract administration with contractors and vendors. May include some interaction with agencies or non-governmental organizations. Internal contacts are primarily with Power Gen personnel, including O&amp;M clients, business planners, project team members, and PG&amp;E internal services organizations and typically include supporting project-related work, documenting and reporting progress, exchanging and coordinating information, documenting meetings and providing appropriate documentation.</td>
</tr>
<tr>
<td><strong>Job Qualifications:</strong></td>
</tr>
<tr>
<td><strong>Education</strong></td>
</tr>
<tr>
<td>A 4-year BS/BA Degree in Engineering, Construction Management, a scientific discipline, economics, finance or business administration from an accredited curriculum in the US or the equivalent from outside the US is required. Or a minimum of 8 years of applicable work experience (such as in accounting, construction management, project scheduling or controls) with responsibilities similar to those required for this classification is acceptable in lieu of formal education.</td>
</tr>
<tr>
<td><strong>Licenses / Certifications</strong></td>
</tr>
<tr>
<td>Project Management Certification highly desired.</td>
</tr>
<tr>
<td><strong>Experience</strong></td>
</tr>
<tr>
<td>Level of experience required depends on education: If the degree requirement noted above is satisfied, meets specific technical requirements gained through a minimum of 5 years of cumulative experience supporting project engineering, design, and construction, including demonstrated successful leadership of these activities. If degree requirement is not satisfied, 10 years of experience is required.</td>
</tr>
<tr>
<td><strong>Knowledge / Abilities</strong></td>
</tr>
<tr>
<td>- Exceptional computer skills, including expertise with SAP, MS-Word and Excel, and with databases and project scheduling software.</td>
</tr>
<tr>
<td>- Able to complete assignments independently and meet commitments based on limited direction, including when tasks are complex and require significant experience-based judgment to accomplish.</td>
</tr>
<tr>
<td>- Applies extensive knowledge of project management concepts, principals, practices, and requirements for power generation assets to help with development and documentation of project scopes and implementation plans.</td>
</tr>
<tr>
<td>- Can create and provide novel and complex analysis of cost and schedule reports and is able to identify key information missed by others.</td>
</tr>
<tr>
<td>- Demonstrates experienced judgment when making decisions and recommendations; uses technical &amp; business judgment to determine cost effective and practical solutions.</td>
</tr>
<tr>
<td>- Able to function as a Senior level Project Management Analyst on multiple large and complex projects, and is able to independently develop CPM schedules, detailed cost plans, project resource plans, and project</td>
</tr>
</tbody>
</table>
### SENIOR LEVEL PROJECT MANAGEMENT ANALYST (50262813)

- Authorization and justification documentation for these projects.
- Able to communicate a variety of topics effectively; and utilize a variety of styles in order to connect with the intended audience; able to present complex project information in informal and formal group settings; promotes greater understanding by providing background information and analysis rational.
- Able to facilitate and lead cross functional teams for the purpose of tools, processes and methodologies.
- Demonstrates mastery of written and verbal communication skills.
- Able to facilitate routine and non-routine project meetings & walk downs.
- Thoroughly understands PG&E’s basic financial and business policies and practices, and is able to apply them appropriately to the cost estimating, economic analysis, justification, and approval of large and complex projects. Demonstrates mastery of company systems including but not limited to SAP, EDRS, and SRM.
- Identifies process improvements, and takes ownership of problems and their solutions.

### POWER GENERATION TECHNICAL ASSISTANT (50262814)

**Summary**
Under general direction or supervision, performs technical work to prepare and submit routine reports, many of which are mandated by regulatory agencies.

**Job Duties:**
Typical assignments may include obtaining and analyzing data; verifying mathematical computations; preparing and submitting regulatory reports, and assisting in administrative work associated with the technical services group.

**Scope**
This position must demonstrate an expert knowledge of Microsoft Office suite of programs.

**Interaction**
This position typically reports to the Manager of Technical Services Power Generation, or otherwise supports this or a comparable functional area.

**Job Qualifications:**

<table>
<thead>
<tr>
<th>Education</th>
<th>AA degree with emphasis on mathematics.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Licenses / Certifications</td>
<td>Valid driver’s license.</td>
</tr>
<tr>
<td>Experience</td>
<td>Experience or supplemental training which establishes the ability to perform duties of the classification.</td>
</tr>
<tr>
<td>Knowledge / Abilities</td>
<td>Must have a demonstrated ability to perform these duties and to learn numerous specialized programs.</td>
</tr>
</tbody>
</table>

### SENIOR POWER GENERATION TECHNICAL ASSISTANT (50216546)

**Summary**
Under general direction or supervision, performs technical work to prepare and submit routine reports, many of which are mandated by regulatory agencies. This position typically reports to the Manager of Technical Services Power Generation or otherwise supports this or a comparable functional area, and performs full range of high level duties as assigned. Many assignments are at an advanced level of knowledge and application. Significant independent action required.
## Job Duties:

Typical assignments include:
- Compile and submit mandatory detailed regulatory reports for a variety of agencies.
- Research and prepare department reports.
- Manage technical office assignments.

## Scope

Resolves problems of complex scope. Assignments may provide an opportunity for creative or non-standard approaches. Under general direction, independently plans work to meet assigned general objectives. Work may be reviewed upon completion; solution may provide an opportunity for creative/non-standard approaches.

## Interaction

External contacts are with contractors, vendors and local public agencies with ministerial authority. Internal contacts are with clients, team members, and company management. May provide technical direction to less experienced team members. Exchanges information and solves problems with others outside the team.

## Job Qualifications:

### Education

AA degree with emphasis on mathematics.

### Licenses / Certifications

Valid driver’s license.

### Experience

The qualifications of a Technical Assistant with five or more years’ experience.

### Knowledge / Abilities

A Technical Assistant with demonstrated ability to perform work of a difficult nature as evidenced by the quality of work.

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### MAINTENANCE PLANNER (50216535)

## Summary

This is a journey level position that supports multiple Supervisors, in a Hydro Area or Fossil power plant, in managing O&M and Construction work, coordinating outages and planning future work. The job is responsible for providing maintenance planning support associated with SAP Work Management, Cost Tracking on O&M orders, Updating Maintenance Plans, maintaining equipment record, and interfacing with the Work Management database.

## Job Duties:

Manage SAP Work Management system for multiple supervisors in a geographic area for all O&M work. Assures that all notifications and orders are accurate and are opened, prioritized and closed out punctually. Assists Supervisors with cost tracking on O&M orders. Reviews with the Supervisors all Compliance and Corrective Action notifications and orders. Updates all Maintenance Plans to reflect current work required by standards and guidelines and to insure recurring orders are created at the appropriate intervals. Close or delete old data from the WM database and maintain it in a current condition. Work with other planners to achieve consistency in the WM system across all Hydro Areas, and coordination with fossil plants. Assure that equipment records are maintained accurately and appropriate data, drawings and standards are included in database. Assures that the Long Term Plan accurately reflects the work required in future years and that the costs for engineering, material procurement, construction, etc., are phased appropriately. Insures that newly identified work is included in the LTP. Plans future work based on utilizing data and findings.
from the Condition Assessment program. Coordinates with other planners, outage coordinators and supervisors across multiple locations to optimize outages. Works with the Power Generation Outage Coordinator to identify opportunities to coordinate outages across Business Lines. Identifies and acts on any opportunities for consolidating outage work to minimize outage durations and improve productivity. Coordinates outage plans with projects from the Long Term Plan.
Performs trend analysis on work backlog to improve planning process and inform supervision about past due work. Report maintenance indicators on schedule attainment, past due work, etc. Work with supervisors to develop potential improvement opportunities. Review and assist Supervisors in identifying and preparing outage scope work packages and compile report for post outage work completed report.
Monitor and provide Supervisors with their Safety Notification backlog report. Create and updates preventive maintenance schedules as appropriate. Provides SAP WM training to field personnel who have the need to use the WM system. Manage all aspects of procurement process, as assigned.
Will work with Supervisors and Principals for some duties. Other duties as assigned.

**Scope**
- Resolves problems of moderate scope. Assignments typically require standard solutions. Under general direction, independently plans work to meet assigned objectives; progress is reviewed periodically for technical accuracy and adequacy in process and upon completion.

**Interaction**
- Supports multiple Supervisors, Business Planners, Engineering and Project Management in Hydro/Fossil, in managing O&M and Construction work, coordinating outages and planning future work. Internal contacts are with clients and project team members and typically include discussing and reporting progress, exchanging and coordinating information, managing meetings and providing scope documents.

**Job Qualifications:**

**Education**
- Minimum of 10 years’ experience maintenance or operations and planning. A 2-year AA Degree or higher in a technical discipline from an accredited curriculum in the US or the equivalent from outside the US is desirable.

**Licenses / Certifications**
- Valid driver’s license.

**Experience**
- Mastery of job duties or equivalent and demonstrated knowledge and ability to perform the basic duties of the Journey Level Planner. Meets specific technical requirements gained through a minimum of 10 years of cumulative experience in maintenance or operations and planning.
- SAP PM module experience
- Experience in planning work/line budget

**Knowledge / Abilities**
- Able to apply basic planning principles and theory.
- Prioritizes, plans, and recommends solutions for routine projects.
- Effectively communicates both written and orally.
- Approaches and plans work in an organized manner to meet area commitments.
- Demonstrates good judgment when making decisions and recommendations.
- Frequently shows initiative and takes action proactively.
- Work with limited supervision and guidance to meet project commitments.
**POWER GENERATION SPECIALIST (50216543)**

**Summary**

This is a Journeyman Level position capable of managing most assignments and job duties with limited oversight and general technical direction of more experienced specialists. Individuals in this position are Subject Matter Experts responsible for providing technical assistance to operating and maintenance supervisors in support of, but not limited to: providing technical data; applying engineering principles to investigate, analyze, and propose solutions to technical issues; assisting project managers, construction personnel, and other business partners. The responsibility level of this position increases with experience. Uses independent judgment in applying operating and maintenance principles, working with minimal supervision. Works with engineers, project managers, construction personnel, and other business partners in assessing project needs. Responsibilities include, but are not limited to, the following: Develop technical studies and reports, and provide guidance to operating and maintenance supervisors, contractors and outside vendors. This position also performs related work as required and the duties outlined in this job description may vary depending on position.

**Job Duties:**

May perform the following functions:

- Provides technical expertise and performs root cause analyses, studies, and develops conceptual designs.
- Presents findings to internal organizations, contractors and outside vendors.
- Develops training plans and materials for Power Generation personnel and conducts training as required.
- Conducts walkdowns and facility operating review meetings.
- Prepares written technical documents such as design criteria, specifications, guidance documents and reports.
- Develops, evaluates, and recommends alternative project proposals.
- Solicits, prepares, and evaluates contracts and proposals from vendors and consultants. Reviews consultant contracts for technical compliance.
- Interprets and applies applicable codes and regulations.
- Participates in the development of effective restoration plans. Assists in root cause analysis.
- Prepares reports, new drawings, and revisions to existing guidance documents.
- In emergencies, promptly responds to facility failures.
- Represents PG&E to government bodies as required for assigned projects.
- Will work with Supervisors and Principals for some duties.
- Provide support and direction and assigns work to field crews during Operation, Maintenance and/or Construction activities at Power Generation Facilities.
- Other duties as assigned.

**Scope**

Resolves problems of moderate scope. Assignments typically require standard solutions. Under general direction, independently plans work to meet assigned objectives; progress is reviewed periodically for technical accuracy and adequacy in process and upon completion.

**Interaction**

External contacts are primarily coordinating with contractors and vendors. Internal contacts are with clients and project team members. May guide the work of less experienced team members. Exchanges information with others outside the team. May partner to solve problems or explore alternative solutions.
Qualifications:

Education
Completion of a Disciplined specific Apprenticeship program or have held a recognized journey level operations position. A Journeyman Certificate in a technical discipline from an accredited curriculum in the US or the equivalent from outside the US. BS degree desired.

Licenses / Certifications
Valid driver’s license.

Experience
Demonstrated knowledge and ability to perform the basic duties of the Power Generation Specialists. Meets specific technical requirements gained through a minimum of eight years of cumulative experience in operation or maintenance field. 8 years’ experience in Journeyman Classification or equivalent.

Knowledge / Abilities
Demonstrates knowledge and abilities required for the Power Generation Specialist and also:
- Demonstrates and promotes safe working practices and methods.
- Capable of coordinating with technical team, and has basic understanding of the roles and responsibilities of Subject Matter Expert.
- Able to work with limited supervision and guidance to meet commitments.
- Able to work with internal and external customers and suppliers.
- Able to understand and implement the technical requirements of interfacing industry disciplines.
- Demonstrates informed judgment when making decisions and recommendations. Shows initiative and takes action proactively.
- Uses judgment in applying disciplined principles and techniques to determine cost effective and practical solutions.
- Ability to manage and complete several projects concurrently, depending on scope and complexity.
- Interprets applicable codes, industry standards and regulations and educates others.
- Can provide thorough analysis of issues and justification of recommendations.
- Takes ownership of problems and their solutions.

Summary
This is an experienced Subject Matter Expert senior-level position that requires mastery of one or more disciplines and typically possesses extensive knowledge of power generation systems and equipment. Individuals at this level are responsible and capable of leading large, complex jobs and investigations and able to provide technical assistance and direction to the facility managers. Applies extensive knowledge of concepts, principles, and practices to resolve complex problems with only general direction. Provides leadership, coaching, technical direction, knowledge transfer and assistance to operating, maintenance, and technical supervisors and their teams. Additional responsibilities beyond the Power Generation Specialist include, but are not limited to, the following: Deliver presentations, lead team meetings, interpret and ensure compliance with industry practices and codes, represent the company to outside regulatory agencies. This position also performs related work as required and the duties outlined in this job description may vary depending on position.

Job Duties:
May perform functions of Power Generation Specialist and in addition:
- Manage large complex projects and perform engineering analyses,
### SENIOR POWER GENERATION SPECIALIST (50216544)

- studies, and develop conceptual designs.
- Lead, coach, direct, and assist technical employees and teams on technical issues. May act as an mentor.
- Assist in finalizing contract project specification and technical evaluation of contract project bids.
- Provide support to other departments in land, permitting, and legal issues.
- Will work with Supervisors and Principals for some duties
- Periodically directs the work of field crews during Operation, Maintenance and/or Construction at Power Generation facilities.
- Other duties as assigned.

**Scope**

| Resolves problems of complex scope. Assignments may provide an opportunity for creative or non-standard approaches. Under general direction, independently plans work to meet assigned general objectives. Work may be reviewed upon completion; solution may provide an opportunity for creative/non-standard approaches. |

**Interaction**

| External contacts are with contractors, vendors and local public agencies with ministerial authority. Internal contacts are with clients, team members, and company management. May provide technical direction to less experienced team members. Exchanges information and solves problems with others outside the team. |

**Job Qualifications:**

**Education**

- Completion of a Disciplined specific Apprenticeship program or have held a recognized journey level operations position. A Journeyman Certificate in a technical discipline from an accredited curriculum in the US or the equivalent from outside the US. BS degree desired.

**Licenses / Certifications**

- Valid driver’s license.

**Experience**

- Mastery of the Power Generation Specialist job duties and demonstrated knowledge and ability to perform the basic duties of the Senior Power Generation Specialists. Meets specific technical requirements gained through a minimum of 8 years as a Power Generation Specialist or 13 years accumulated experience in significant related work.

**Knowledge / Abilities**

- Demonstrate knowledge and abilities required for the Power Generation Specialist and Senior Power Generation Specialist and also:
  - Demonstrate ability to handle multiple large scale, large budget complex projects without supervision.
  - Demonstrate good presentation skills including knowledge transfer presentations.
  - Ability to serve as the leader for a technical review team including outside contractors.
  - Complete assignments of broad scope and complexity.
  - Ability to integrate information from a variety of sources.

### SENIOR CONSULTING POWER GENERATION SPECIALIST (50264453)

**Summary**

This is a senior consulting-level power generation specialist position that requires mastery of the senior power generation specialist and power generation specialist duties and is routinely requested by management to lead, as assigned, project management, program management, and/or regulatory project management for the most complex and high risk exposure business endeavors. The Senior Consulting Power Generation Specialist is a widely recognized generation expert within the company and with external partners.
**SENIOR CONSULTING POWER GENERATION SPECIALIST (50264453)**

and stakeholders; is requested to apply expert judgment and extensive knowledge of the generation industry to research and develop new/unique solutions; develops and applies extensive risk management and programmatic approaches for high risk and/or system-wide issues; and/or applies extensive project management and contracting knowledge and negotiation skills to resolve complex challenges. They are routinely requested by management to apply their expertise to projects they don’t otherwise manage, and at a programmatic level. Provides extensive leadership, coaching and development of less experienced power generation specialists and managers. Provides high-level technical briefings, advice, and recommendations to upper management. Responsibilities may include Privileged and Confidential work.

**Job Duties:**

<table>
<thead>
<tr>
<th>Performs the functions of Senior Power Generation Specialist and Power Generation Specialist, but for more complex, larger budget, higher risk exposure, and higher profile projects. Jobs duties will vary by assignment. In addition, job duties include, but are not limited to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Applies extensive generation expertise to develop strategic and tactical strategies and solutions for the most complex business endeavors.</td>
</tr>
<tr>
<td>- Develops and applies extensive risk management and programmatic approaches for high risk, high visibility, and/or system-wide issues.</td>
</tr>
<tr>
<td>- Acts as a company witness, liaison, and/or information provider on complex issues to outside parties; presents clear, concise, and well-reasoned positions for desired ideas and proposals.</td>
</tr>
<tr>
<td>- Represents PG&amp;E at external industry associations, committees, trade organizations and other inter-utility groups.</td>
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<tr>
<td>- Researches and develops innovative solutions to solve challenging technical issues.</td>
</tr>
<tr>
<td>- Develops strategies and provides negotiation leadership on high risk and/or highly complex contracts issues.</td>
</tr>
<tr>
<td>- Provides expert technical support in incident investigations and root cause analysis and makes recommendations to address local and system-wide problems.</td>
</tr>
<tr>
<td>- Provides high-level technical briefings, advice, and recommendations to upper management.</td>
</tr>
<tr>
<td>- Develops technical policies, procedures, and leads the development of standards, specifications, and guidelines.</td>
</tr>
<tr>
<td>- Interprets, clarifies, and educates others in applicable industry standards, and regulatory codes and regulations.</td>
</tr>
<tr>
<td>- Provides expert knowledge and guidance to others in design reviews, start-up testing, inspections, and condition assessment; actively supports complex and/or large project start-up tests and field inspections.</td>
</tr>
<tr>
<td>- Develops and nurtures constructive relationships with internal and external individuals and teams</td>
</tr>
<tr>
<td>- Provides extensive leadership, coaching and development of less experienced specialists and managers.</td>
</tr>
<tr>
<td>- Routinely requested by management to apply their expertise to projects they don’t otherwise manage, and at a programmatic level.</td>
</tr>
</tbody>
</table>

**Scope**

Routinely requested by management to apply extensive generation expertise to develop strategic and tactical strategies and solutions for the most complex business endeavors, including on projects they don’t otherwise manage and at the programmatic level. Is widely recognized and serves as an expert within area of specialization to meet high level business needs. Regularly expected to apply creativity or new approaches to assignments that may be unique. Regularly takes a leadership role on technically complex projects. Customarily
and regularly uses discretion and independent judgment in fulfilling these job functions. Regularly supports Directors, Managers, Principals, and First Line Supervisors, engineers and project managers on programmatic solutions, process improvements, regulatory relations and strategies.

**Interaction**
Externally, establishes and maintains good relations with counterparts and higher level representatives in third party organizations, e.g., governmental, regulatory, business partner or community entities, using skilled negotiation, tact and diplomacy. Internal contacts are primarily with Power Gen personnel, Law Department, PG&E internal services organization, and company management at the officer, director and manager level. Serves as the most senior level technical expert on the team. May partner with internal or external stakeholders to solve problems or explore alternative solutions. Often is a technical coach for others.

**Job Qualifications:**

| Education | Meets qualifications for Senior Power Generation Specialist |
| Licenses / Certifications | Meets qualifications for Senior Power Generation Specialist |
| Experience | Mastery of the Senior Power Generation Specialist and Power Generation Specialist job duties and demonstrated knowledge, leadership, and ability to perform the duties of the Senior Consulting Power Generation Specialist. Meets specific knowledge/technical requirements gained through a minimum of twenty years of cumulative experience in operations, maintenance, and/or construction, at least fifteen of which must be in generation or heavy industry management or at least 10 years in hydro operations / maintenance management, depending on assignment. |
| Knowledge / Abilities | Demonstrates knowledge and abilities required for the Senior Power Generation Specialist and Power Generation Specialist and also: |
| | – Demonstrates ability to provide resolution of complex technical and contractual issues. Has an established track record of successful leadership of technical and/or regulatory endeavors in power generation which have consistently yielded positive outcomes for the company. |
| | – Demonstrates expert-level knowledge of the generation industry concepts, principles, standards, practices, and regulatory requirements in area of expertise to resolve complex problems. |
| | – Provides leadership, direction, and coaches and develops less experienced specialists, engineers and project managers. |
| | – Demonstrates expert-level project management skills, including judgment in applying and adapting traditional project management techniques; development of strategic and tactical strategies for risk management, outage optimization, external stakeholders, contracting, and resource management; provides organizational savvy and ability to effectively leverage informal and formal techniques to deliver results; and development of effective metrics to measure performance. |
| | – Complete complex assignments with few or no precedents or standards. |
| | – Demonstrates exceptional verbal and written communication and presentation skills. |
| | – Able to effectively facilitate large project & group meetings, including external participants. |
| | – Builds consensus around complex and controversial project & technical issues and successfully persuades others to act on agreements |
Senior Consulting Power Generation Specialist (50264453)

- Reached.
- Demonstrates ability to ensure high quality work by self and others in discipline and/or project team; develops specifications; and approves work of less experienced specialists.
- Seeks opportunities to build organization's understanding of technical information, processes, and tools; demonstrates the ability to effectively transfer knowledge; develops and provides effective training.
- Readily integrates industry knowledge and best practices into everyday business practices and decision making; provides others with interpretation and guidance on industry standards and regulations.
- Proactively identifies trends over multiple projects or years; takes needed action to initiate practical system-wide improvements, provides recommendations, develops implementation plans, and leads implementation.
- Proactively evolves operating, maintenance, and regulatory skills and knowledge through industry associations & conferences, technical workshops, trade publications, and additional formal education.

Power Generation Outage Coordinator (50216536)

Summary
The Outage Coordinator plays an integral role in outage planning, processing, energy and ancillary service market availability, market pricing impacts and transmission outage coordination within Power Generation. This position applies extensive knowledge of Grid concepts, principles, and practices to resolve issues of varying complexity within Power Generation operations and maintenance scheduling. Provides technical information to Power Generation staff regarding outage coordination and unit scheduling. Researches and identifies practical solutions to highly complex outages and scheduling. Interpret industry practices, standards and guidelines.

Job Duties:
- Build Safety into all aspects of work.
- Coordinate all Power Generation equipment clearances with the Power Generation Energy Supply, Independent System Operator (ISO) and PG&E Transmission Outage Coordinators.
- Review and process all TCC Telecom Clearance Outages and their impacts on power generation assets.
- Review all Transmission Clearance Outages and their impacts on Power Generation assets.
- Review all Gas Clearance Outages and their impacts on Power Generation assets.
- Prepare Diablo Canyon Daily and Monthly Reports to the CPUC.
- Provide support during root cause investigations into Forced Outages.
- Interface with Energy Supply on pertinent outage issues and resolutions.
- Provide support to other departments within Power Generation.

Scope
Resolves problems of varying complex scope. Assignments may provide an opportunity for creative or non-standard approaches. Under general direction, independently plans work to meet assigned general objectives and goals.

Interaction
Supports all Power Generations facilities, Maintenance Planning, Energy Supply, Transmission Outage Coordination, Gas Outage Coordination, and Telecomm Outage Coordination groups.
### POWER GENERATION OUTAGE COORDINATOR (50216536)

#### Job Qualifications:

**Education**

**Licenses / Certifications**
- Pacific Gas and Electric Company Apprenticeship program certificate
- State of California Apprenticeship Certificate
- Valid California Driver’s License

**Experience**
- 5 years’ experience in Journeyman Classification with a total of 7 years relevant work experience in PG&E, or 8 years outside of the company.
- Business Understanding
  - Scheduling and Logging for ISO of California (SLIC)
  - Energy Supply Clearance
  - Generation Unit Status and Scheduling System (GUSS)
  - Unit Status and Reporting System (USRS)
  - GRIP Operating System
  - Microsoft Office

**Knowledge / Abilities**
- Demonstrate knowledge and abilities required for the Outage Coordinator.
- Complete assignments of broad scope and complexity.
- Prioritize plans and recommends solutions for routine outages.
- Approach and plans work in an organized manner to meet project commitments.
- Demonstrate good judgment when making decisions and recommendations.
- Frequently shows initiative and takes action proactively.
- Integrate information from a variety of sources.
- Serve as a point of contact in planning, researching, and scheduling Power Generation outages.

### HYDRO ANALYST, WATER MANAGEMENT (50216528)

**Summary**
- This position manages, validates and maintains all hydro meteorological data. Interfaces closely with hydrographic group and hydro schedulers relative to data needs. Performs analytical and technical assistance to Water Management and other departments as may be needed. Work mostly includes carrying out routine well documented tasks under direct supervision.

**Job Duties:**
- **Database Administration and Maintenance:**
  - Manages and maintains all hydro meteorological data
  - Monitors programs and validates data to assure a stable and accurate flow of data
  - Coordinates with the programming staffs on program enhancements

- **Analytical and Regulatory Reporting**
  - Prepares reports for the regulatory agencies and assist in compiling all the powerhouse and reservoir records for the Hydrographers prior to submitting to the USGS
  - Performs analytical and technical assistance to the Water Management
and other departments as may be needed

**Billings:**
- Assists on preparing data for the billings to the governmental agencies

**Technical Support and Coaching:**
- Works with the hydrographers on data processing and data issues
- Monitors and updates the Power Generation’s Water Management web Page
- Provides data support to the scheduling and forecasting and other departments as needed
- Maintains all historical hydro meteorological record

**Scope**
Resolves problems of complex scope with assistance. Assignments may provide an opportunity for creative or non-standard approaches. Under general direction, independently plans work to meet assigned general objectives. Work may be reviewed upon completion; solution may provide an opportunity for creative/non-standard approaches.

**Interaction**
Supports Hydro Scheduling Consultants and Hydrographers in data production, reduction and manipulation towards the optimization of hydro production.

**Job Qualifications:**

**Education**
A.A. degree or higher with focus in physical or biological science field preferred, but not required.

**Licenses / Certifications**
n/a

**Experience**
Enter at this level assumes little or no previous experience.

**Knowledge / Abilities**
- Responsible for accurate write up of documentation and procedures including developing concisely worded E-mails to accompany data transfers.
- Demonstrates basic consulting skills to assist others with understanding hydrographic and water related operations and limitations of data for specific applications.
- Appropriately prioritizes time needed to produce results. Plans time and works on multiple projects during any given day.
- Has limited knowledge as to where to retrieve data for various uses including meeting data requests.
- Ability to integrate information from a variety of sources.
- Has some knowledge of hydro database and hydroelectric system including stream/reservoir gages and weather stations.

**Summary**
The senior position has sufficient experience to utilize a vast array of resources including, but not limited to involving and directing others in a team approach when needed. The senior position operates and makes decisions in mostly an autonomous manner. The senior position will develop or solicit the needed resources to develop new source code or methodology as may be needed. This position regularly attends meetings outside of PG&E and participates in training as opportunities arise. The person actively exchanges information with Government Agencies in a manner that reflects favorably on
### SENIOR HYDRO ANALYST, WATER MANAGEMENT (50262817)

PG&E, and enhances our Water Management credibility with those Agencies.

| **Job Duties:** | **Database Administration and Maintenance:**  
| | - Manages and maintains the hydro meteorological database. Develops procedures and documentation  
| | - Analyzes and validates data quality. Chooses method and approach to correct missing or erroneous hydro meteorological data  
| | - Coordinates and advises the programming staffs on program enhancements. Troubleshoot, test and debug as needed.  
| | - Identifies problems and communicates regularly with the appropriate staffs and outside agencies  
| | - Develops new source code or methodology as may be needed  

**Analytical and Regulatory Reporting**  
- Audits, validates and compiles records for the Hydrographers prior to submitting to the USGS  
- Evaluates alternatives and selects most appropriate approach to achieving desired study results  
- Provides high level data gathering and reporting  
- Recommends and works with licensing and others as needed to meet the regulatory requirements

**Cost Planning and Billings:**  
- Plans and validates actual charges to orders. Identify cost variances and take corrective action  
- Handles and coordinates billings

**Technical Support and Coaching:**  
- Identifies cause of problems and takes corrective action to resolve problems  
- Instructs and supports the hydrographers and others on data processing, data issues and in using new programs  
  - Oversees the Admin. Clerk on the hydro meteorological record filings

### Scope
Resolves problems of complex scope. Assignments may provide an opportunity for creative or non-standard approaches. Expected to independently plan work to meet assigned general objectives. Work is seldom reviewed upon completion; solution may provide an opportunity for creative/non-standard approaches.

### Interaction
Supports Hydro Scheduling Consultants and Hydrographers in data production, reduction and manipulation towards the optimization of hydro production. Often directs the actions of Hydro Analysts.

### Job Qualifications:

<p>| <strong>Education</strong> | B.S. degree or higher in water/hydrology, meteorology, water resource, engineering, soils, biology, natural resources, or geology related field preferred, but may be substituted if person has extensive experience and an obvious ability to perform at the senior hydro analyst level. Programming experience desirable. |
| <strong>Licenses / Certifications</strong> | n/a |
| <strong>Experience</strong> | Typically requires 5+ yrs. at the WM Hydro Analyst level with ability to function autonomously without significant oversight. Has successfully proven ability to fully function and multitask in an autonomous manner during fast turn-around periods. Sufficiently experienced to interview data requester and determine type and level of data quality needed for purpose intended. Sufficiently |</p>
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<thead>
<tr>
<th>SENIOR HYDRO ANALYST, WATER MANAGEMENT (50262817)</th>
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<tbody>
<tr>
<td>knowledgeable to caution user regarding use of data.</td>
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</table>
| **Knowledge / Abilities** | • Fully able to produce concise, succinct documentation and descriptions for developing procedures and documentation.  
• Fully able to describe water operation and facilities as may be needed. Recommends and works with licensing and others as may be needed. Provides guidance for small hydro operation. Works closely with generation supervisor. Advises others regarding data quality and whether or not appropriate for use with certain applications.  
• Appropriately prioritizes time needed to produce results. Plans time and works on multiple projects during any given day.  
• Fully able to retrieve data from Power Gen’s HYDSTRA, GRIP, GUSS, and CDEC databases and produce useful analysis.  
• Produces and shares various charts of flows and error uncertainty levels.  
• Ability to integrate information from a variety of sources.  
• Fully understand and have extensive knowledge of hydro database and hydroelectric system including stream/reservoir gages and weather stations. |

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<tr>
<th>ASSOCIATE HYDROGRAPHER (50262818)</th>
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<td><strong>Summary</strong></td>
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| **Job Duties:** | • Assist in the installation, calibration operation and maintenance of instream and reservoir gauging equipment.  
• Conduct routine stream flow measurements.  
• Assists with ultrasonic flowmeter installation and operation.  
• Collects and processes surface water data  
• May perform snow surveys.  
• Work with engineering, consultant and contract staff on specific projects.  
• Handle and coordinate some billings for the local Watershed.  
• May attend meetings, workshops, and conferences with technical and management representatives of state, federal, local water agencies and other stakeholder groups.  
• Inputs data into surface water data base.  
• Contributes to analytical and technical assistance to the Water Management and other departments as may be needed. |
<p>| <strong>Scope</strong> | Resolves problems of limited scope. Assignments typically require standard solutions. Assignments are regularly reviewed. |
| <strong>Interaction</strong> | Supports Hydrographers, Local Operations, Hydro Scheduling, Consultants and Hydro Analyst in data production, reduction and manipulation towards the optimization of hydro production. |
| <strong>Job Qualifications:</strong> | |
| <strong>Education</strong> | B.S. Degree or higher in water/hydrology, meteorology, geology, water resources, engineering, soils, natural resources or geology related field preferred. |
| <strong>Licenses / Certifications</strong> | Valid Driver’s License. |</p>
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<tr>
<th><strong>ASSOCIATE HYDROGRAPHER (50262818)</strong></th>
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<tr>
<td><strong>Experience</strong></td>
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</table>
| **Knowledge / Abilities** | - Acquiring necessary skills for accurate acquisition, application and documentation of surface water records.  
- Demonstrates basic skills and understanding of hydrographic and water related operations.  
- May schedule daily work load. Handles multiple projects during any given day.  
- Has some knowledge as to where to retrieve data for various uses including meeting data requests.  
- Has basic knowledge of hydro database and hydroelectric system including stream/reservoir gages and weather stations in assigned area. |

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<tr>
<th><strong>HYDROGRAPHER (50216531)</strong></th>
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<tr>
<td><strong>Summary</strong></td>
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</table>
| **Job Duties:** | - Specify equipment needs, install, calibrate operate and maintain all instream and reservoir gauging equipment.  
- Participates in Powerhouse efficiency testing.  
- Conduct all types of stream flow measurements.  
- Familiar with ultrasonic flowmeter installation and operation.  
- Familiar with FERC license required flows and storage requirements i.e. instream, recreation, and pulse flows, minimum reservoir storage, and reservoir drawdown schedules.  
- Monitor current software e.g. GRIP/GUSS and HYDSTRA/KISTER programs for compliance with FERC license requirements.  
- Review spillway reports for maintenance of spill rights.  
- Collect, process and submit all surface water data  
- Performs various water related studies, data requests, and billing as needed.  
- Performs snow surveys.  
- Coordinate with systems and programming staffs current software (HYDSTRA/KISTERS) on program enhancements  
- Work with and provide direction to engineering, consultant and contract staff on specific projects.  
- Handle and coordinate billings for the local Watershed.  
- Audit, validate powerhouse records prior to submitting to the USGS.  
- Participates in meetings, workshops, and conferences with technical and management representatives of state, federal, local water agencies and other stakeholder groups.  
- Assist in preparing and developing recommendations on alternative approaches to optimize water system operations and performance.  
- Validate GRIP/GUSS/GIS data to assure a stable and accurate flow of data to other departments, governmental and outside Agencies |
### HYDROGRAPHER (50216531)

- Perform analytical and technical assistance to the Water Management and other departments as may be needed.
- Prepares memoranda and reports documenting the results of technical analyses and participates in presentation to technical and non-technical audiences.
- Oversees operations of weather modification/precipitation enhancement project if present on their watershed.
- Participate in Relicensing meetings and studies for watershed projects.

**Scope**

Resolves water related problems of complex scope. Assignments may provide an opportunity for creative and/or non-standard approaches. Independently plans work to meet objectives. Work solutions may provide an opportunity for creative/non-standard approaches.

**Interaction**

Supports Generation Supervisors, Hydro Scheduling Consultants and Hydro Analyst in data synthesis towards the optimization of hydro production within full compliance of FERC license requirements and in a safe, efficient and environmentally responsible manner.

**Job Qualifications:**

**Education**

B.S. Degree or higher in water/hydrology, meteorology, geology, water resources, engineering, soils, natural resources or geology related field preferred.

**Licenses / Certifications**

Valid Driver's License.

**Experience**

Typically requires 2+ yrs. at the associate level with ability to function autonomously without significant oversight. Has successfully submitted records to US Geological survey with their acceptance. May have satisfied these experience criteria with an outside Company or Agency.

**Knowledge / Abilities**

- Responsible for accurate write up of documentation and procedures including developing concisely worded E-mails to accompany data transfers.
- Demonstrates basic consulting skills to assist others with understanding hydrographic and water related operations and limitations of data for specific applications.
- Appropriately prioritizes time needed to produce results. Schedules daily work load. Handles multiple projects during any given day.
- Has complete knowledge as to where to retrieve data for various uses including meeting data requests.
- Ability to integrate information from a variety of sources.
- Has complete knowledge of hydro database and hydroelectric system including stream/reservoir gages and weather stations in assigned area.

### SENIOR HYDROGRAPHER (50216532)

**Summary**

A Senior Hydrographer performs all the duties of a Hydrographer and takes on additional duties as needed including, but not limited to Relicensing, limited water runoff forecasting as may be needed for small hydro. Conducts special water or weather/climate related projects. May be responsible for contract negotiations that relate to Water Management for assigned watershed/projects. Works closely with assigned Hydro Scheduling Consultant and Generation Supervisor to assure regulatory compliance and discover opportunities for extracting increased value from the water. Assists with powerhouse testing for determining correct flows. Provides time and support to local safety program, Generation Supervisors’ needs, environmental related work, and other duties.
<table>
<thead>
<tr>
<th><strong>SENIOR HYDROGRAPHER (50216532)</strong></th>
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<tbody>
<tr>
<td>assigned by Area Manager.</td>
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<tr>
<td><strong>Job Duties:</strong></td>
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<tr>
<td>• Works actively with licensing</td>
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<tr>
<td>team to assure that correct</td>
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<tr>
<td>methodology is in place to</td>
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<tr>
<td>assure compliance tracking/</td>
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<tr>
<td>monitoring.</td>
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<tr>
<td>• Expert with FERC license</td>
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<tr>
<td>required flows and storage</td>
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<tr>
<td>requirements i.e. instream,</td>
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<tr>
<td>recreation, and pulse flows,</td>
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<tr>
<td>minimum reservoir storage, and</td>
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<tr>
<td>reservoir drawdown schedules.</td>
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<tr>
<td>• Provides direction with</td>
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<tr>
<td>ultrasonic flowmeter</td>
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<tr>
<td>installation and operation.</td>
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<tr>
<td>• May direct Associate/Hydro</td>
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<tr>
<td>graphers and the operations of</td>
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<tr>
<td>weather modification/</td>
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<tr>
<td>precipitation enhancement</td>
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<tr>
<td>project if present on their</td>
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<tr>
<td>watershed.</td>
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<tr>
<td>• Critical participant in</td>
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<td>relicensing meetings and</td>
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<tr>
<td>studies for watershed.</td>
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<thead>
<tr>
<th><strong>Scope</strong></th>
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<tbody>
<tr>
<td>Takes lead role in resolving water related problems of complex scope. Assignments may provide an opportunity for creative and/or non-standard approaches. Independently plans work to meet objectives. Work solutions may provide an opportunity for creative/non-standard approaches.</td>
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<tr>
<th><strong>Interaction</strong></th>
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<tbody>
<tr>
<td>Supports Generation Supervisors, Hydro Scheduling Consultants and Hydro Analyst in data synthesis towards the optimization of hydro production within full compliance of FERC license requirements and in a safe, efficient and environmentally responsible manner. Actively supports safety program including membership on local safety committee.</td>
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<tr>
<th><strong>Job Qualifications:</strong></th>
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<tbody>
<tr>
<td><strong>Education</strong></td>
</tr>
<tr>
<td>B.S. Degree or higher in water/hydrology, meteorology, geology, water resources, engineering, soils, natural resources or geology related field preferred.</td>
</tr>
<tr>
<td><strong>Licenses / Certifications</strong></td>
</tr>
<tr>
<td>Level 1 or 2 Hydrologic Technician Certification from the American Institute of Hydrology. Valid Driver’s License.</td>
</tr>
<tr>
<td><strong>Experience</strong></td>
</tr>
<tr>
<td>Typically requires 8 yrs. since entry. Functions fully autonomously for all assigned projects. Several assigned responsibilities beyond specialized hydrographic field role that draw on Hydrographers specialized expertise.</td>
</tr>
<tr>
<td><strong>Knowledge / Abilities</strong></td>
</tr>
<tr>
<td>• Communicates openly with Agencies and other stake holders</td>
</tr>
<tr>
<td>• Demonstrates expert consulting skills to assist others with understanding hydrographic and water related operations and limitations of data for specific applications.</td>
</tr>
<tr>
<td>• Assists Hydrographer and others in watershed with decision making as may be needed. Comes across as highly credible with others in field and GO.</td>
</tr>
<tr>
<td>• Skilled optimization of time toward accomplishing an array of activities beyond the routine hydrographic work load including mentoring and assisting others.</td>
</tr>
<tr>
<td>• Individual is recognized as the technical expert for the assigned watershed. Shares knowledge and expertise with licensing, consultants and other Hydrographers.</td>
</tr>
<tr>
<td>• Fully understands hydro operations in assigned watershed and how Water Management provides guidance to energy traders. Actively assists Water Management with decisions for large hydro when help is requested.</td>
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<tr>
<th><strong>HYDRO SCHEDULING CONSULTANT (HSC) (50216529)</strong></th>
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<tr>
<td><strong>Summary</strong></td>
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<tr>
<td>This position forecasts water runoff optimizes hydro schedules the water releases from PG&amp;E and/or Partnership Reservoirs, and in the process</td>
</tr>
</tbody>
</table>
forecasts hydroelectric generation. Provides PG&E energy traders, who actually implement the guidance, with optimized reservoir release guidance. Guidance is seldom questioned and is normally implemented as given by the HSC. Typical annual water value in terms of equivalent energy replacement is approximately 200 million dollars/hydro scheduler. Water release guidance credibility with energy traders and others is earned over time. This position is responsible for most hydro meteorological questions and information requests that refer to their assigned watersheds.

**Job Duties:**
HSC has a primary responsibility to forecast and schedule one or more watersheds, performs probabilistic hydro meteorological analysis with opportunity cost type tradeoffs. Individual after first year typically possesses a ‘moderate’ knowledge of assigned hydro systems. Provides credible runoff forecasts & scheduling guidance to Energy Traders & others. During first year as a HSC, an experienced hydro scheduler normally oversees, mentors/coaches, reviews and approves all forecasting and hydro scheduling. The HSC job frequently assists with re-licensing or other hydrology related work. Specific assigned duties may include contributions to hydrographic work and hydrological model development, testing, & support. Work on water related projects, analysis, or assignments as assigned by Water Management Manager or others. This position frequently provides hydrology support for re-licensing. Performs water billing if required.

**Scope**
Responsible to autonomously forecast runoff and provide continuously updated, revised water release guidance in a timely manner to energy traders and generation supervisors in the field as may be needed. Performs water studies and analysis as may be needed and/or as requested.

**Interaction**
External contacts are with contractors, vendors and local public agencies with ministerial authority. Internal contacts are with clients (energy trading hydrographers, and other field personnel), project team members, and company management. Represents PG&E as the hydrologist for assigned watersheds.

**Job Qualifications:**

<table>
<thead>
<tr>
<th>Education</th>
<th>M.S. Degree or higher in water/hydrology, meteorology, geology related science preferred to function at expected level of knowledge needed. Extensive experience and knowledge of the PG&amp;E/Partnership watersheds may on a case for case basis be considered as a suitable substitute for a graduate degree. This position must possess the technical and scientific skills characteristic of a professional hydrologist.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Licenses / Certifications</td>
<td>None required.</td>
</tr>
<tr>
<td>Experience</td>
<td>As noted above, extensive experience and knowledge of the PG&amp;E/Partnership watersheds may on a case for case basis be considered as a suitable substitute for a graduate degree.</td>
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</tbody>
</table>
| Knowledge / Abilities | • Has detailed expertise and understanding of PG&E’s hydroelectric system, contracts, licenses, and instrumentation.  
• Ability to quickly apply hydrological knowledge, statistical probability, and computer skills to optimize water releases and provide credible water operation guidance in a time constrained environment.  
• Ability to present water management plans in a credible and professional manner, consistent with best practices.  
• Ability to quickly assess storm situations and provide recommended guidance for flood or high water situations.  
• Must have excellent computer skills in multiple regressions, Microsoft Office, and running hydrologic models.  
• Ability to communicate effectively with both internal and outside clients and |
public agencies.
- Have in addition to hydrology a basic understanding of California geology and the principles of meteorology.

**Summary**
The Senior level implies mastery of the routine duties performed by the Hydro scheduling consultant (HSC). This position is typically expected to proactively identify water management needs, and develop creative and innovative solutions as agreed to with the Manager of Water Management. This position is expected to perform research and apply new methodology to increase work efficiency. Each Sr HSC is expected to add approximately 1-3 million Dollars/year long term in equivalent energy savings beyond typical SOCRATES output guidance. This can take place in any of a number of different ways such as challenging/revising maintenance schedules, optimizing water release strategy beyond the monthly scheduling guidance, and from special optimizing type analysis performed outside of SOCRATES utilizing LP, regression, analysis, and opportunity cost tradeoffs.

**Job Duties:**
Performs all duties of HSC & takes on additional duties as needed including, but not limited to re-licensing, special water or weather/climate related projects, and contributes to hydrographic work. Responsible for contract negotiations that relate to Water Management for assigned watersheds/Projects. Responds to forecasting /hydro scheduling requests from remote locations by VPN/CITRIX. This level is expected to design and develop new procedures as needed.

**Scope**
Resolves problems of complex scope. Assignments may provide an opportunity for creative or non-standard approaches. Under general direction, independently plans work to meet assigned general objectives. Work may be reviewed upon completion; solution may provide an opportunity for creative/non-standard approaches.

**Interaction**
External contacts are with contractors, vendors, universities, government agencies, local public agencies with ministerial authority. Internal contacts are with clients, project team members, and company management. May provide technical direction to less experienced team members. Exchanges information and solves problems with others outside the team.

**Job Qualifications:**

<table>
<thead>
<tr>
<th>Education</th>
<th>M.S. Degree or higher in water/hydrology, meteorology, or geology related science or a B.S. degree and extensive experience may on a case by case basis be considered. For new Senior HSC’s, hydrologist certification and/or authored list of 2 or more water related professional papers should occur within first 7 years.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Licenses / Certifications</td>
<td>For new Senior HSC’s, hydrologist certification and/or authored list of 2 or more water related professional papers should occur within first 7 years.</td>
</tr>
<tr>
<td>Experience</td>
<td>This position requires 'expert' competency and high credibility to effectively carryout required job role. Typically requires 6+yrs. as HSC. The SrHSC functions fully autonomously for all assigned projects. This level can expect several assigned responsibilities beyond the routine assigned forecasting &amp; hydro scheduling. Sufficient prior experience in water management, licensing or other may on a case-by-case be substituted.</td>
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<tr>
<td>Knowledge / Abilities</td>
<td>Demonstrate knowledge and abilities required for the Journey level HSC and also: Demonstrate ability to handle optimal water release guidance without supervision.</td>
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<tr>
<td>ASSOCIATE LEVEL LICENSE COORDINATOR (50262819)</td>
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<td>-----------------------------------------------</td>
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<tr>
<td><strong>Summary</strong></td>
<td>This is an entry-level License Coordinator job that works under the general technical direction of more experienced License Coordinators. This job assists in managing the operating licenses issued by the Federal Energy Regulatory Commission (FERC) and related water rights, permits and agreements for the Company's extensive hydroelectric system. The position helps assure compliance with applicable regulation and laws to provide reliable and cost-effective service to our customers while achieving sound environmental stewardship, a high level of social responsibility, positive stakeholder relationships and an outstanding public and employee safety record. The position entails conducting routine license management activities for less complex licenses, or assisting others on more complex licenses, including, but not limited to: providing technical data; investigating, analyzing, and proposing solutions to regulatory issues; assisting License Coordinators, License Project Managers, Project Engineers, Generation Supervisors, Hydrographers, Project Analysts, Lawyers, Business Planners, scientists, operating personnel, construction personnel, other business partners, contractors, and others to assess and resolve regulatory issues; developing and documenting regulatory solutions; assists in developing cost estimates; identifying and obtaining necessary regulatory approvals; overseeing or conducting regulatory investigations; interpreting regulatory requirements; and providing guidance to operations personnel on regulatory matters. The scope, complexity, impact and degree of independent action increase with experience. Works with Supervisor on some job duties. Responsibilities may include Privileged and Confidential work.</td>
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<tr>
<td><strong>Job Duties:</strong></td>
<td>Initial assignments from the tasks below will require direction and supervision; with experience the independence and responsibility will expand and the need for supervision will decrease.</td>
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<td>Job duties include, but are not limited to:</td>
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<td>- Interprets license requirements</td>
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<td>- Tracks, manages and assures license compliance</td>
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<td></td>
<td>- Tracks, manages and assures compliance with third party agreements associated with FERC licenses</td>
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<td></td>
<td>- Prepares and files regulatory communications and reports</td>
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<td>- Communicates verbally with regulatory agencies and third parties</td>
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<td></td>
<td>- Maintains license records and documentation</td>
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<td></td>
<td>- Assists in obtaining permits needed for operating and construction activities</td>
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<td>- Resolves compliance issues in partnership with operating personnel</td>
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<td></td>
<td>- Assists in developing operating plans in partnership with operating personnel</td>
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<td></td>
<td>- Assists in license projects and agreements</td>
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<tr>
<td></td>
<td>- Manages internal relationships with operating personnel and service departments</td>
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</table>
ASSOCIATE LEVEL LICENSE COORDINATOR (50262819)

- Assists License Coordinators and Sr. License Coordinators as may be assigned
- Use SAP for required job duties.

Works with Supervisor to:
- Prepare written and verbal communications with regulatory agencies, non-governmental organizations and other third parties

Scope
Manages simple licenses and resolves problems of limited scope. Assignments typically require standard solutions. Assignments are regularly reviewed.

Interaction
Internal contacts are with Power Generation personnel, Law Department, and other service organizations and typically include reporting and discussing regulatory matters, exchanging, interpreting and coordinating information, managing meetings and developing and providing documents. External contacts, which are typically conducted under the direction and with oversight by more senior License Coordinators or Supervision, are with contractors, regulatory agencies, non-governmental organizations, and other third parties. Contacts with contractors typically include directing work, discussing contract administration and results. Other external contacts typically include reporting and discussing regulatory matters, exchanging, interpreting and coordinating information, managing meetings, developing and providing documents, and negotiating agreements.

Job Qualifications:

Education
A 4-year BS/BA Degree in Engineering, Regulatory Policy, Resource Management or Biological or Ecological Science or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US required.

Licenses / Certifications
Valid driver’s license.

Experience
1-2 years’ experience in hydro license management or equivalent desired. Valid driver’s license.

Knowledge / Abilities
- Prioritizes, plans, and recommends solutions for routine issues.
- Approaches and plans work in an organized manner to meet commitments.
- Demonstrates good judgment when making decisions and recommendations.
- Frequently shows initiative and takes action proactively.
- Shows ability to interact effectively with others and present well developed reasoning for desired positions and ideas. Takes a collaborative approach to solution-finding.
- Sees the big picture. Understands organization and individual roles. Thinks strategically and critically. Able to understand and implement strategies and tactics developed by others.
- Able to make clear presentation of basic information in internal settings
- Demonstrates good basic oral and written communications in a business setting.
- Demonstrates ability to effectively and timely share information with others.
- Shows ability to develop constructive relationships with other team members and with external parties.
- Understands basic regulatory concepts and requirements and able to focus on timely meeting all requirements.
## ASSOCIATE LEVEL LICENSE COORDINATOR (50262819)

- Basic familiarity with compliance management processes.
- Ability to understand issues, evaluate and clearly present alternatives and concerns, and prepare well organized documentation of results.
- Demonstrates desire to learn and understand industry and acquire new skills information and knowledge.

## JOURNEY LEVEL LICENSE COORDINATOR (50216533)

**Summary**
This is a journey-level License Coordinator job that requires mastery of the Associate level License Coordinator skills and duties and is responsible for managing more complex FERC licenses and related water rights, permits and agreements for the Company’s extensive hydroelectric system. Manages licenses, and participates as a team member in license projects including, but not limited to original licenses, relicensing, license surrender, decommissioning, license transfer, major license amendments, transition to license implementation, non-routine license implementation projects, license-related programs, and other license-related projects. Uses independent judgment in applying regulatory and license management concepts, principles, and practices working with minimal supervision. Works with other License Coordinators, License Project Managers, Project Engineers, Generation Supervisors, Hydrographers, Project Analysts, Lawyers, Business Planners, scientists, operating personnel, construction personnel, and other business partners in assessing and resolving regulatory needs and issues. Responsibilities beyond those of Associate License Coordinator include, but are not limited to, the following: additional responsibility for compliance with water rights; conducting site inspections with regulatory agencies; taking on responsibility for implementation of individual non-routine license requirements; simple negotiations with regulatory agencies and other third parties; greater responsibility for managing external relationships with regulatory agencies and other third parties; increased responsibility for developing regulatory strategies; providing emergency response for regulatory matters; and developing annual budgets and resource requirements. Works with Supervisor on some job duties. Responsibilities may include Privileged and Confidential work.

**Job Duties:**
Perform functions of Associate level License Coordinator, but for more complex licenses. Also performs additional job duties listed below:

Additional Job duties include, but are not limited to:
- Provides emergency response for regulatory matters
- Assists in tracking, managing and assuring compliance with water rights
- Conducts site inspections with regulatory agencies
- Manages license implementation projects as may be assigned
- Plans and manages annual budgets and contracts related to license management

Works with Supervisor to:
- Manage external relationships with regulatory agencies, non-governmental organizations and other third parties related to licenses managed
- Negotiate with regulatory agencies, non-governmental organizations and other third parties related to licenses managed
- Develop strategies related to licenses managed
- Monitor and adopt changes in industry, legislation and regulation
<table>
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<tr>
<th>JOURNEY LEVEL LICENSE COORDINATOR (50216533)</th>
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<td>related to hydropower</td>
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**Scope**
Manages moderately complex licenses and resolves problems of moderate scope. Assignments typically require standard solutions, but may include a moderate level of innovation. Under general direction, independently plans work to meet assigned objectives; progress is reviewed periodically for accuracy and adequacy in process and upon completion.

**Interaction**
Internal contacts are with Power Generation personnel, Law Department, and other service organizations and typically include reporting and discussing regulatory matters, exchanging, interpreting and coordinating information, managing meetings and developing and providing documents. External contacts, which typically involve discussion with more senior License Coordinators or Supervision in advance, are with contractors, regulatory agencies, non-governmental organizations, and other third parties. Contacts with contractors typically include directing work, discussing contract administration, and results. Other external contacts typically include reporting and discussing regulatory matters, exchanging, interpreting and coordinating information, managing meetings, developing and providing documents, and negotiating. May provide guidance to less experienced License Coordinators and other team members. May partner with internal or external stakeholders to solve problems or explore alternative solutions.

**Job Qualifications:**

**Education**
A 4-year BS/BA Degree in Engineering, Regulatory Policy, Resource Management, Biological or Ecological Science, or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US required.

**Licenses / Certifications**
Valid driver’s license.

**Experience**
Mastery of the Associate level License Coordinator job duties or equivalent and demonstrated knowledge and ability to perform the basic duties of the Journey Level License Coordinator. Meets specific knowledge/ability requirements gained through a minimum of three years of cumulative experience in license coordination or equivalent.

**Knowledge / Abilities**
Demonstrates knowledge and abilities required for the Associate level License Coordinator and also:

- Coordinates well with others, and has basic understanding of the roles and responsibilities of License Coordinators.
- Able to work with limited supervision and guidance to meet commitments.
- Able to work with internal and external stakeholders.
- Able to understand and implement the requirements of interfacing disciplines.
- Demonstrates informed judgment when making decisions and recommendations.
- Uses judgment in applying regulatory and license management principles and techniques to determine cost-effective and practical solutions.
- Able to manage several licenses concurrently, depending on scope and complexity.
<table>
<thead>
<tr>
<th><strong>JOURNEY LEVEL LICENSE COORDINATOR (50216533)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Accurately interprets applicable laws, standards and regulations and educates others.</td>
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<tr>
<td>- Can provide thorough analysis of issues and justification of recommendations.</td>
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<tr>
<td>- Takes ownership of problems and their solutions.</td>
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<tr>
<td>- Demonstrates ability and desire to effectively engage others, including external stakeholders, in discussion and present clear and well-reasoned positions for desired ideas and proposals. Demonstrated ability to collaboratively negotiate with external parties and reach agreement on moderately complex issues.</td>
</tr>
<tr>
<td>- Sees the big picture. Understands organization and individual roles. Journey level strategic and critical thinking skills. Demonstrates ability to develop and implement strategies and tactics to address moderately complex issues.</td>
</tr>
<tr>
<td>- Demonstrates ability to make clear, persuasive presentations of basic information in internal and external settings</td>
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<tr>
<td>- Demonstrates ability to organize ideas and communicate effectively orally and in writing both informally and in formal business settings. Communications demonstrate strategic and critical thinking skills. Demonstrates ability to craft effective correspondence, reports, filings, applications, agreements and proposed license conditions.</td>
</tr>
<tr>
<td>- Shares information and lessons learned with co-workers to promote efficient learning and development within the organization. Helps train and mentor Associate License Coordinators.</td>
</tr>
<tr>
<td>- Demonstrates ability to develop and maintain constructive relationships with individuals and teams both internally and externally including with difficult individuals.</td>
</tr>
<tr>
<td>- Has interest and aptitudes in project management. Has received some project management training. Able to effectively develop and manage obtaining simple license amendments and license implementation projects with limited oversight. Able to meet project objectives on schedule and within authorized cost.</td>
</tr>
<tr>
<td>- Demonstrates ability to understand and correctly interpret regulations and requirements, meet difficult time constraints, meet all regulatory requirements and maintain accurate, timely compliance records.</td>
</tr>
<tr>
<td>- Competent with compliance management processes.</td>
</tr>
<tr>
<td>- Understands and helps develop regulatory strategies. Skilled at achieving desired regulatory results.</td>
</tr>
<tr>
<td>- Demonstrates ability to understand complex regulatory, operation and maintenance, engineering and environmental issues; develop, evaluate and support alternatives and concerns; and prepare well organized presentations and documentation of results.</td>
</tr>
<tr>
<td>- Able to talk knowledgably about current hydro issues, seeks deeper understanding of issues.</td>
</tr>
<tr>
<td>- Understands basic contract principles and able to evaluate and develop proposals for simple contracts.</td>
</tr>
<tr>
<td>- Understands basic Company financial and business policies and practices; understands and contributes to preparation of cost estimates, economic analyses and project justifications; develops budget input for licenses managed and tracks and controls actual costs.</td>
</tr>
<tr>
<td>- Able to identify gaps between current business practices and stated objectives and provide recommendations for process improvements to address gaps.</td>
</tr>
<tr>
<td>- Proactively evolves license coordination and project management</td>
</tr>
<tr>
<td><strong>JOURNEY LEVEL LICENSE COORDINATOR (50216533)</strong></td>
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<tr>
<td>---</td>
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<tr>
<td>skills and knowledge through industry associations &amp; conferences, technical workshops, trade publications, and additional formal education.</td>
</tr>
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</table>

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<thead>
<tr>
<th><strong>SENIOR LEVEL LICENSE COORDINATOR (50216534)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Summary</strong> This is a Senior-level License Coordinator job that requires mastery of the Journey License Coordinator job duties and is responsible for managing the most complex licenses and related water rights, permits and agreements for the Company’s extensive hydroelectric system. Manages complex licenses, and participates as a team member in license projects. “Complex” refers to the overall character of a license compared to other licenses, and includes consideration of project size, asset value, issues and risk to the Company, number of external stakeholders, etc. Applies extensive knowledge of, and skills in, regulatory and license management concepts, principles, and practices to resolve complex license management problems with only general direction. Provides regulatory and license management leadership, coaching, direction, knowledge transfer and assistance to employees and teams. Additional responsibilities beyond the Journey License Coordinator include, but are not limited to, the following: deliver presentations in internal and external settings; lead team meetings; interpret laws, regulations and standards; manage implementation of complex non-routine license requirements; conduct complex negotiations with regulatory agencies, non-governmental organizations and third parties; take a lead role in managing external relationships with regulatory agencies and third parties; take a lead role in developing regulatory strategies; provides leadership, coaching, training, technical direction, oversight, and quality assurance of work by others; and manage the process of obtaining license amendments. Works with Supervisor on some job duties. Responsibilities may include Privileged and Confidential work.</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th><strong>Job Duties:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Performs functions of Associate and Journey level License Coordinators, but for more complex licenses. Also performs job duties listed below:</td>
</tr>
</tbody>
</table>

Additional Job duties include, but are not limited to:
- Leads, coaches, directs, and assists employees and teams on regulatory and license management issues. May act as a mentor to Associate and Journey License Coordinators
- Provides regulatory and license management support to other departments
- Manages complex license implementation projects as may be assigned
- Develops or assists in the development of new or updated license management processes, systems, guidelines and standards
- Manages obtaining license amendments

Works with Supervisor to:
- Negotiate with regulatory agencies, non-governmental organizations and other third parties on complex regulatory and license management issues related to licenses managed
- Take leadership role in managing external relationships with regulatory agencies, non-governmental organizations and other third parties related to licenses managed
- Take leadership role in developing regulatory and license management strategies |
**Senior Level License Coordinator (50216534)**

- Monitor, influence and adopt changes in industry, legislation and regulation related to hydropower
- Participate in external and industry forums

**Scope**

Manages complex licenses and resolves problems of complex scope. Assignments may provide an opportunity for creative or non-standard approaches. Under general direction, independently plans work to meet assigned general objectives. Work may be reviewed in process and upon completion; solution may provide an opportunity for creative/non-standard approaches.

**Interaction**

Internal contacts are with Power Generation personnel, Law Department, and service organizations at the senior and management level and typically include reporting and discussing regulatory matters, exchanging, interpreting and coordinating information, managing meetings and developing and providing documents. External contacts, which may involve discussion with Supervision in advance, are with contractors, regulatory agencies, non-governmental organizations, and other third parties at the senior staff level. Contacts with contractors typically include directing work, discussing contract administration and results. Other external contacts typically include reporting and discussing regulatory matters, exchanging, interpreting and coordinating information, managing meetings, developing and providing documents, and negotiating. May provide direction to less experienced License Coordinators and other team members. May partner with internal or external stakeholders at the senior staff level to solve problems or explore alternative solutions.

**Job Qualifications:**

**Education**

A 4-year BS/BA Degree in Engineering, Regulatory Policy, Resource Management, Biological or Ecological Science, or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US required. Advanced degree in same fields desired.

**Licenses / Certifications**

Professional certification desired. Valid driver’s license.

**Experience**

Mastery of the Associate and Journey level License Coordinator job duties and demonstrated knowledge and ability to perform the basic duties of the Senior Level License Coordinator. Meets specific knowledge/ability requirements gained through a minimum of eight years of cumulative experience in license coordination or equivalent.

**Knowledge / Abilities**

Demonstrates knowledge and abilities required for the Associate and Journey level License Coordinator and also:

- Demonstrates ability to manage multiple high profile and complex licenses with very little supervision.
- Demonstrates good presentation skills including knowledge transfer presentations.
- Able to lead regulatory or license management teams including outside contractors.
- Successfully completes assignments of broad scope and complexity.
- Able to integrate information from a variety of sources.
- Demonstrates ability and desire to effectively engage others, including external stakeholders, in discussion and present clear and well-reasoned positions for desired ideas and proposals. Demonstrates ability to collaboratively negotiate with external parties and reach
<table>
<thead>
<tr>
<th><strong>Senior Level License Coordinator (50216534)</strong></th>
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<tbody>
<tr>
<td>agreement on complex and difficult issues.</td>
</tr>
<tr>
<td>▪ Clearly and deeply sees how license coordination activities and assignments support Company and department goals. Deep understanding of department and individual roles. Strong strategic and critical thinking skills. Demonstrates ability to develop and implement strategies and tactics to address complex and difficult issues.</td>
</tr>
<tr>
<td>▪ Demonstrates ability to make clear, persuasive presentations on complex issues in large internal or external settings that may be difficult or contentious.</td>
</tr>
<tr>
<td>▪ Demonstrates strong ability to organize ideas and communicate orally and in writing on complex topics informally and in formal business settings both internal and external. Communications demonstrate strong strategic and critical thinking skills. Demonstrates skilled ability to craft effective correspondence, reports, filings, applications, agreements and proposed license conditions. Able to critically review communications prepared by others.</td>
</tr>
<tr>
<td>▪ Seeks opportunities to share information and lessons learned with co-workers to promote efficient learning and development within the organization. Helps train and mentor Associate and Journey License Coordinators.</td>
</tr>
<tr>
<td>▪ Demonstrates expert ability to develop, maintain and nurture constructive relationships with individuals and teams, internally and externally in the face of adversity. Acts as a positive influence on internal and external team dynamics to build more effective outcomes.</td>
</tr>
<tr>
<td>▪ Has received formal project management training. Demonstrates ability to effectively develop and manage obtaining license amendments and non-routine license implementation projects. Demonstrates ability to achieve project objectives on schedule and within authorized cost.</td>
</tr>
<tr>
<td>▪ Demonstrates ability to understand and correctly interpret regulations and requirements, meet difficult time constraints, meet all regulatory requirements and maintain accurate, timely compliance records. Expert on compliance management processes. Demonstrates ability to develop and implement effective regulatory strategies. Expert at achieving desired regulatory results. Assists in industry and legislative and regulatory matters.</td>
</tr>
<tr>
<td>▪ Demonstrates ability to understand complex regulatory, operation and maintenance, engineering and environmental issues; independently develops, evaluates and supports creative solutions, alternatives and concerns; prepares and presents clear, well organized presentations and documentation of results for internal and external decision makers.</td>
</tr>
<tr>
<td>▪ Knowledgeable about current hydro issues, seeks deeper understanding of issues, and interacts effectively with other industry representatives and organizations.</td>
</tr>
<tr>
<td>▪ Understands and able to apply contract principles. Demonstrates ability to develop bid packages, evaluate proposals, and effectively manage moderately complex contracts.</td>
</tr>
<tr>
<td>▪ Understands Company financial and business policies and practices; understands and contributes to preparation of cost estimates, economic analyses and project justifications; prepares moderately complex cost estimates; develops budget input for licenses managed and tracks and controls actual costs.</td>
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</tbody>
</table>
| ▪ Able to identify gaps between current business practices and stated
<table>
<thead>
<tr>
<th><strong>SENIOR LEVEL LICENSE COORDINATOR (50216534)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>objectives and takes the lead for process improvements to address gaps.</td>
</tr>
<tr>
<td>− Proactively evolves license coordination and project management skills and knowledge through industry associations &amp; conferences, technical workshops, trade publications, and additional formal education.</td>
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</table>
NUCLEAR ENGINEERING AND QUALITY VERIFICATION

Nuclear Quality Verification Auditor

Job Titles

<table>
<thead>
<tr>
<th>Nuclear Auditor/Inspector</th>
<th>Nuclear Inspector/Auditor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Associate</td>
<td>Associate Nuclear Auditor</td>
</tr>
<tr>
<td>Associate Inspector</td>
<td>Associate Nuclear Inspector</td>
</tr>
<tr>
<td>Journey</td>
<td>Nuclear Audit Team Leader</td>
</tr>
<tr>
<td>Senior</td>
<td>Nuclear Senior Audit Team Leader</td>
</tr>
<tr>
<td>Senior Advising</td>
<td>Nuclear Senior Audit Team Leader II</td>
</tr>
</tbody>
</table>

**Summary**

This is an entry-level position that works under the direction of supervision or more experienced auditors. Quality Auditors and Inspectors within the Quality Verification Section are responsible for the management of the Corporate Nuclear Quality Assurance Program (for both the Diablo Canyon and Humboldt Bay Power Plants) and for assuring the QA Program prescribed by Chapter 17 of the Final Safety Analysis Report, SAFSTOR QA Plan, ISFSI QA Program, program directives, and administrative procedures are effectively implemented and complied with. They are further responsible to ensure that management systems and processes are adequate and effective in meeting NRC regulatory requirements as well as industry excellence standards established by INPO. Auditors and Inspectors are responsible to conduct quality audits, assessment, supplier evaluations, independent reviews, process monitoring, independent inspections, and independent welding examinations. Auditors and Inspectors also interpret industry standards and quality assurance program requirements as well as developing quality assurance requirements.

The responsibility level of this position increases with experience.

**Job Duties:**

Initial assignments from the tasks below will require direction and supervision; with experience the independence and responsibility will expand and the need for supervision will decrease.

- Audits and assessments conducted are both compliance-based and performance-based and extend into all areas of the organization that perform quality-related activities. Audits, assessments, reviews and monitors may be conducted of engineering, design, radiation protection, operations, chemistry, security, fitness-for-duty, program management, environmental, procurement, maintenance, outage management, modifications, organizational effectiveness, performance improvement (corrective action, operating experience, self-assessment, benchmarking), human performance, nuclear safety, PRA, fire protection, radiation protection, health physics, emergency preparedness, reactor engineering, transient analysis, records systems, document control, welding, in-service inspections, surveillance testing, in-service testing, engineering programs, systems engineering, technical engineering, regulatory reporting, refueling, personnel safety, licensing, senior management oversight, training, contractor controls, contracts, off-site supplier activities, procured equipment & materials, procured services and contractor activities.

Responsibilities will include audit program management, quality assurance
program management and inspection process program management for specific disciplines including the performance of laboratory, equipment or material field tests for Quality and Non-Quality purchased material (or areas or responsibility). Areas assessed and audited vary and are dependent on the auditor's experience and expertise with the more complex assignments being implemented by the auditor or senior auditor positions.

Other assignments may include:
- Perform - Manage the audit schedule
- Drafting reports
- Coordinate Quarterly Performance Assessment Report (QPAR)
- Manage Observation data base
- Manage Training records
- Manage Electronic Data Management System (EDMS)
- Primary contact for outside information requests
- Attend training courses to further increase qualifications and experience
- On call duties
- Travel

**Requirements**
A bachelor's degree in the appropriate field or discipline of a recognized college or its equivalent in education and experience. Equivalency may include high school graduation with some training preferred of the equivalent in education and/or experience (as defined in ANSI standards). Educational background may be in chemistry, physics, behavior science, radiological sciences, radio-chemistry, environmental, security, engineering, maintenance discipline or other special background that would be applicable for a nuclear power plant.

**Scope**
- Maintains an absolute commitment to safety for self and others.
- Investigates/analyzes assigned technical issues, with close supervision of method, progress, and resources.
- Applies basic analytical and investigative principles and scientific theory to routine problems. Prioritizes, plans, and recommends solutions.
- Assists other auditors, engineers, project teams, and supervisors by developing, compiling, and providing technical data.
- Effectively communicates, both written and orally.
- Approaches and plans work in an organized manner applying established policies and procedures.
- Demonstrates good judgment when making decisions and recommendations.
- Frequently shows initiative.
- Has basic knowledge of applicable nuclear process principles, codes, regulations, policies, and procedures related to the industry and PG&E, and related to their field of expertise.

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<tr>
<th>Summary</th>
<th><strong>NUCLEAR JOURNEY LEVEL (50222853)</strong></th>
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<tbody>
<tr>
<td>In addition to meeting the criteria for a “Nuclear Associate Level”, this category is for the individual that has demonstrated a comprehensive knowledge of function and works independently with limited supervision or guidance. Position is considered to be a seasoned and experienced professional and is considered to be the fully developed “journey-level” or “career” position.</td>
<td></td>
</tr>
</tbody>
</table>
| **Job Duties:** | - Applies comprehensive knowledge of concepts, principles, and practices in a specific discipline, field, or area of expertise to assess, investigate and/or resolve a wide range of issues.  
- Completes assignments of diverse scope and complexity that require integration of information from a variety of sources. Uses independent judgment within general parameters to determine an appropriate  |
- Works with limited supervision and guidance, both independently and/or as a member of a team.
- Requires the ability for certification as Audit Team Leaders per NRC RG 1.123 (ANSI N25.2.23) or Certification as a discipline nuclear Level III inspector per NRC RG 1.58 (ANSI N45.2.6).
- Prepares moderately complex quality assessment plans, audit plans, and inspection plans, and makes recommendations.
- Takes ownership of problems and their solutions.
- Recognizes and actively seeks value added improvements to the system.
- Effectively leads group meetings.
- Demonstrates good presentation skills.
- Interprets and applies applicable codes and regulations, and educates PG&E nuclear employees and/or industry personnel.
- May provide leadership, direction, and assistance to technical employees and teams.
- Negotiates effective management solutions beneficial to the customer and PG&E.
- Instills a sense of customer service in the department. Knows who the customer is, understands the customers’ needs, and applies this knowledge consistently.
- Contributes to corporate and department goals.
- Assists in managing and controlling assigned budgets.
- Assists in development of technical policies and procedures.
- Makes timely and accurate decisions.
- Develops a compelling business case/justification for presentation to senior management.

### Requirements
Is a college graduate from an accredited college with a four-year BS degree in Sciences or Engineering (or equivalent) with a minimum of 3 years of experience as an Auditor or Inspector. Demonstrates a broad understanding in functional area. Equivalency may include high school graduation with some training preferred or the equivalent in education and/or experience (as defined in ANSI standards). Educational background may be in chemistry, physics, behavior science, radiological sciences, radio-chemistry, environmental, security, engineering, maintenance discipline or other special background that would be applicable for a nuclear power plant.

### Scope
- Maintains an absolute commitment to safety for self and others.
- Investigates/analyzes assigned technical issues, with close supervision of method, progress, and resources.
- Applies basic analytical and investigative principles and scientific theory to routine problems. Prioritizes, plans, and recommends solutions.
- Assists other auditors, engineers, project teams, and supervisors by developing, compiling, and providing technical data.
- Effectively communicates, both written and orally.
- Approaches and plans work in an organized manner applying established policies and procedures.
- Demonstrates good judgment when making decisions and recommendations.
- Frequently shows initiative.
- Has good knowledge of applicable nuclear process principles, codes, regulations, policies, and procedures related to the industry and PG&E, and related to their field of expertise.
### Summary

In addition to meeting the criteria for an "Nuclear Journey Level, this category is for an individual that has acquired extensive knowledge of concepts, principles and practices, and works independently with only general direction. This individual will provide technical direction and completes assignments that require integration with other departments and are of broad scope and complexity. Position has wide-ranging expertise and unique experience and “advanced” expertise in the quality area.

### Job Duties:

- Completes assignments of broad scope and complexity with few precedents or standards, and assignments that require integration of information from a variety of sources.
- Works independently with only general direction. Often serves as a team leader.
- Assesses business conditions, identifies opportunities, and develops programs from a multifunctional, cross-process perspective to enhance nuclear generation business positions.
- Provides leadership, direction, and assistance to technical employees and teams. Coaches and develops others.
- Is recognized as the “expert” within specific area of expertise.
- Identifies and implements opportunities to improve company performance (quality, performance, human factors, financial, regulatory).
- Lead complex quality program assessments, independent management and technical audits (e.g. Safety System Functional Audit & Review “SSFARs”) and management of major project quality programs.
- In the area of inspections, may have the ability to perform as the Level III for multiple disciplines per the requirements of NRC RG 1.58 (ANSI N45.2.6).
- Provides superior customer service solutions.
- Recommends and assists in implementation of strategic direction.
- Effectively represents PG&E at industry association, trade committee, and inter-utility work groups.
- Contributes to the development of standards, specifications, construction documents and guidelines.

### Requirements

Is a college graduate from an accredited college with a four-year BS degree in Sciences or Engineering (or equivalent) with a minimum of 8 years of appropriate experience, or less if employee consistently demonstrates equivalent level performance, or was previously classified at a similar type classification such as a “senior engineer: within the engineering family prior to transfer to QV. Equivalency may include high school graduation with some training preferred of the equivalent in education and/or experience (as defined in ANSI standards.) Educational background may be in chemistry, physics, behavior science, radiological sciences, radio-chemistry, environmental, security, engineering, maintenance or other special background that would be applicable for a nuclear power plant.

### Scope

- Maintains an absolute commitment to safety for self and others.
- Investigates/analyzes assigned technical issues, with close supervision of method, progress, and resources.
- Applies basic analytical and investigative principles and scientific theory to routine problems. Prioritizes, plans, and recommends solutions.
- Assists other auditors, engineers, project teams, and supervisors by developing, compiling, and providing technical data.
- Effectively communicates, both written and orally.
- Approaches and plans work in an organized manner applying established
policies and procedures.
- Demonstrates good judgment when making decisions and recommendations.
- Frequently shows initiative.
- Has good to excellent knowledge of applicable nuclear process principles, codes, regulations, policies, and procedures related to the industry and PG&E, and related to their field of expertise.

**NUCLEAR SENIOR ADVISING LEVEL (50222819)**

<table>
<thead>
<tr>
<th>Summary</th>
<th>In addition to meeting the criteria for a &quot;Nuclear Senior Level&quot;, this category is for the individual that has acquired extensive knowledge in a specific discipline or area of expertise that has recognition for such knowledge by the industry in general. This position provides technical input to industry organizations; works independently and provides analysis techniques to develop solutions; leads significant assessments and provides evaluation of complex issues and processes. Position has broad expertise and unique experience and may be an industry &quot;expert&quot; in the quality area.</th>
</tr>
</thead>
</table>
| Job Duties: | - Is a technical pathfinder who consistently searches for and discovers practical solutions to highly complex problems and delivers positive results.  
- Is recognized as the company/business area expert within specific area of expertise.  
- Contributes significantly to the development of standards, specifications, construction documents and guidelines.  
- Conceives and investigates areas in which management processes or quality programs precedents are not tested.  
- Develops technical policies and procedures.  
- Ability to lead high risk major and technically complex quality program assessments (e.g. multiple system complex Safety Systems Function Audit Review (SSFAR) or new vertical-slice type assessments), independent management and technical audits and management of major project quality programs.  
- Applies extensive knowledge of concepts, principles and practices in a specific discipline, field or area of expertise to resolve complex problems.  
- Leverages expertise and industry involvement to achieve positive results. |
| Requirements | Is a college graduate from an accredited college with a four-year BS degree in Sciences or Engineering (or equivalent) with a minimum of 13 years of experience, or less if employee consistently demonstrates an equivalent level of performance. Equivalency may include high school graduation with some training preferred of the equivalent in education and/or experience (as defined in ANSI standards). Educational background may be in chemistry, physics, behavior science, radiological sciences, radio-chemistry, environmental, security, engineering, maintenance or other special background that would be applicable for a nuclear power plant. |
| Scope | - Maintains an absolute commitment to safety for self and others.  
- Investigates/analyzes assigned technical issues, with close supervision of method, progress, and resources.  
- Applies basic analytical and investigative principles and scientific theory to routine problems. Prioritizes, plans, and recommends solutions.  
- Assists other auditors, engineers, project teams, and supervisors by developing, compiling, and providing technical data.  
- Effectively communicates, both written and orally.  
- Approaches and plans work in an organized manner applying established... |
policies and procedures.
- Demonstrates good judgment when making decisions and recommendations.
- Frequently shows initiative.
- Has good to excellent knowledge of applicable nuclear process principles, codes, regulations, policies, and procedures related to the industry and PG&E, and related to their field of expertise.

### ASSOCIATE NUCLEAR CHEMISTRY ENGINEER (50311385)

<table>
<thead>
<tr>
<th>Summary</th>
<th>This is an entry-level Nuclear Chemistry Engineer job that works under the general technical direction of a more experienced Nuclear Chemistry Engineer. This job is responsible for providing nuclear chemistry engineering support for routine projects, including but not limited to: Analyzing and trending data to identify adverse trends; researching industry guidelines and operating experience for proposed solutions; assisting in all aspects of procedure development and chemical analytical methods; gaining general knowledge of plant systems and interactions both chemically and mechanically.</th>
</tr>
</thead>
</table>
| Job Duties | Assignments during this period will generally be to assist in one or more of the work areas described below. Working on the tasks below will require direction and supervision. With experience, the independence and responsibilities will expand and the need for supervision will decrease.  

**Primary Chemistry**—Responsible for control of corrosion and cleanliness in reactor water and auxiliary support systems to support system integrity and plant dose control. Support appropriate laboratory analyses and quality control. Perform strategic planning for shutdown, startup, and cycle chemistry regimes for the primary systems.  

**Secondary Chemistry**—Responsible for control of corrosion and cleanliness in secondary and tertiary plant systems to support system integrity and rigorous monitoring of contaminants responsible for corrosion of system materials. Support appropriate laboratory analyses and quality control. Perform strategic planning for shutdown, startup, and cycle chemistry regimes of the secondary systems.  

**Radiochemistry**—Responsible for onsite gamma spectroscopy, liquid scintillation, and proportional counter systems. Supports appropriate laboratory analyses, analytical development, and maintains strict quality control for all chemistry analytical programs.  

**Radioactive and Non-Radioactive Effluents**—Responsible for the 10CFR20 radioactive effluents program and radwaste management. Supports performance of analyses per 40CFR136 to demonstrate compliance with plant NPDES permit.  

**Auxiliary Chemistry**—Responsible for control of corrosion and cleanliness in auxiliary plant systems, closed cooling systems, and emergency diesel chemistry requirements to support system integrity and rigorous monitoring of contaminants responsible for corrosion of system materials. Support appropriate laboratory analyses. Maintains the TQ1.DC24 Tech Check program. Supports plant programs for consumable materials to minimize the potential for system corrosion and loss of integrity.  

Holds a position, chemistry related or otherwise to support plant needs, within the Emergency Response Organization or holds a position on an ERO team such as a Scenario development team. |
<table>
<thead>
<tr>
<th>Scope</th>
<th>Resolves problems of limited scope. Assignments typically require standard solutions. Works under the technical direction of a Journey or higher engineer. Assignments are regularly reviewed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interaction</td>
<td>External contacts typically require obtaining and providing information to third parties. Internal contacts are with clients and project team members and project team members and typically include discussing and reporting progress, exchanging and coordinating information, and managing meetings.</td>
</tr>
<tr>
<td>Education</td>
<td>Recommended BS or BA degree in chemistry or a closely-related technical discipline</td>
</tr>
<tr>
<td>Licenses / Certifications</td>
<td>None</td>
</tr>
<tr>
<td>Experience</td>
<td>1-2 years’ experience in chemistry at a nuclear power is desired.</td>
</tr>
<tr>
<td>Knowledge / Abilities</td>
<td>Able to apply basic chemistry principles and theory. Prioritizes, plans, and recommends solutions for basic assignments. Approaches and plans work in an organized manner to meet project commitments. Demonstrates good judgment when making decisions and recommendations. Frequently shows initiative and takes action proactively.</td>
</tr>
</tbody>
</table>

**JOURNEY LEVEL NUCLEAR CHEMISTRY ENGINEER (50222821)**

| Summary | This is a journey-level Nuclear Chemistry Engineer job that requires mastery of the Associate level Nuclear Chemistry Engineer skills and duties and is responsible for leading more complex projects and work. Capable of working with minimal supervision. Uses independent judgment in applying chemistry principles, interfaces with other disciplines and works with chemistry engineers, foremen, and technicians in assessing needs. Responsibilities beyond those of associate Nuclear Chemistry Engineer include, but are not limited to, the following: Developing chemical analytical methods; writing procedures; developing technical studies and reports, and provide guidance to contractors and outside vendors; providing nuclear chemistry engineering support for routine projects; increasing knowledge of plant systems and interactions both chemically and mechanically. |

| Job Duties | Assignments during this period will generally be to assist with one or more of the work areas, or manage under direction one of the work areas described under the job duties of the Associate Nuclear Chemistry Engineer; Primary Chemistry, Secondary Chemistry, Radiochemistry, Radioactive and Non-Radioactive Effluents, and Auxiliary Chemistry. Working on these tasks will require minimal direction and supervision. With more experience, the independence and responsibilities will expand and the need for supervision will decrease or cease. Holds a position, chemistry related or otherwise to support plant needs, within the Emergency Response Organization or holds a position on an ERO team such as a Scenario development team |

| Scope | Resolves problems of moderate scope. Assignments typically require standard solutions. Assignments are regularly reviewed. |
| Interaction | External contacts are primarily coordinating, discussing, and reporting progress with third parties including contractors and vendors. May guide the work of less experienced team members. Exchanges information with others outside the team. |
May partner to solve problems or explore alternative solutions. Internal contacts are with clients and project team members.

<table>
<thead>
<tr>
<th>Education</th>
<th>Recommended: BS or BA degree in chemistry or a closely-related technical discipline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Licenses / Certifications</td>
<td>ANSI 402-09 - Chemistry and Radiochemistry</td>
</tr>
<tr>
<td>Experience</td>
<td>Mastery of the Associate level Nuclear Chemistry Engineer job duties or equivalent and demonstrated knowledge and ability to perform the basic duties of the Journey Level Nuclear Chemistry Engineer. Meets specific technical requirements gained through a minimum of three years of cumulative experience Nuclear Chemistry Engineering.</td>
</tr>
<tr>
<td>Knowledge / Abilities</td>
<td>Able to apply basic chemistry principles and theory. Prioritizes, plans, and recommends solutions for basic assignments. Approaches and plans work with limited supervision in an organized manner to meet project commitments. Demonstrates good judgment when making decisions and recommendations. Frequently shows initiative and takes action proactively.</td>
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<th><strong>SENIOR ENGINEER LEVEL NUCLEAR CHEMISTRY ENGINEER (50311384)</strong></th>
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<td>Licenses / Certifications</td>
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<td>Experience</td>
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<td>Knowledge / Abilities</td>
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**SENIOR CONSULTING/SENIOR ADVISING LEVEL NUCLEAR CHEMISTRY ENGINEER (50311812)**

**Summary**
This is a Senior Consulting/Advising Level Nuclear Chemistry Engineer job that requires mastery of the Senior Level Nuclear Chemistry Engineer job duties. The position leads complex projects, is a recognized expert within their area of responsibility, and applies extensive knowledge of concepts, principles, and practices to resolve complex problems with only general direction. Provides technical leadership, coaching, and knowledge transfer. Researches and identifies practical solutions to highly complex problems. Identifies opportunities and brings in ideas to help improve company performance. Additional responsibilities beyond the Senior Level Nuclear Chemistry Engineer include, but are not limited to, interpreting industry and regulatory programs, participating in industry groups, such as EPRI technical working groups. Excellent knowledge of plant systems and interactions both chemically and mechanically.

**Job Duties**
May perform the duties of the Associate, Journey and Senior Level Nuclear Chemistry Engineer. Works independently giving direction and managing programs in one or more of the work areas described under the job duties of the Associate Nuclear Chemistry Engineer: Primary Chemistry, Secondary Chemistry, Radiochemistry, Radioactive and Non-Radioactive Effluents, and Auxiliary Chemistry. Works independently or as team sponsor to resolve challenging plant chemistry issues. Acts as an engineering mentor. Leads root cause analysis teams for chemistry programs and problems. Develops technical policies, procedures, and contributes to the development of standards, specifications and industry guidelines such as EPRI. Represents PG&E at external industry associations, committees, and other inter-utility groups. Holds a position, chemistry related or otherwise to support plant needs, within the Emergency Response Organization or holds a position on an ERO team such as a Scenario development team.

**Scope**
Resolves problems of very complex scope. Serves as a key technical resource within area of specialization. Regularly expected to apply creativity or new approaches to assignments that may be unique. May lead others on technically complex projects. Customarily and regularly uses discretion and independent judgment in fulfilling these job functions.

**Interaction**
Externally, establishes and maintains good relations with counterparts and higher
level representatives in third party organizations using skilled negotiation, tact and diplomacy. Internal contacts include project team members, company management across various departments. Serves as the most senior level technical expert on the team. Often is a technical coach for others.

| Education | BS or BA degree in chemistry or a closely-related technical discipline. |
| Licenses / Certifications | ANSI 402-09 - Chemistry and Radiochemistry |
| Experience | Mastery of the Associate, Journey and Senior level Nuclear Chemistry Engineer duties or equivalent and demonstrated knowledge and ability to perform the basic duties of the Senior Consulting Level Nuclear Chemistry Engineer. Meets specific technical and ANSI requirements gained through a minimum of thirteen years’ experience at a commercial nuclear power facility. |
| Knowledge / Abilities | Demonstrates knowledge and abilities required for the Associate, Journey and Senior Level Nuclear Chemistry Engineer. Able to handle multiple large and complex projects without supervision and serve as team leader. Provide leadership, direction, and assistance to engineers and designers. Coach and develop Nuclear Chemistry Engineers. Successfully negotiate cost effective solutions beneficial to our customers and PG&E. Complete complex assignments with few or no precedents or standards. Apply extensive knowledge of concepts, principles and practices in a specific field or area of expertise to resolve complex problems. |

**Principal Level Nuclear Chemistry Engineer (50478429)**

| Summary | This is a Principal Level Nuclear Chemistry Engineer job that requires mastery of the Senior Advising/Senior Consulting Level Nuclear Chemistry Engineer job duties. The position leads complex projects, is a recognized expert within their area of responsibility, and applies extensive knowledge of concepts, principles, and practices to resolve complex problems with only general direction. Provides technical leadership, coaching, and knowledge transfer. Researches and identifies practical solutions to highly complex problems. Identifies opportunities and brings in ideas to help improve company performance. Additional responsibilities beyond the Senior Advising/Senior Consulting Level Nuclear Chemistry Engineer include, but are not limited to, interpreting industry and regulatory programs, participating in industry groups, such as EPRI technical working groups. Excellent knowledge of plant systems and interactions both chemically and mechanically. |
| Job Duties | May perform the duties of the Associate, Journey, Senior and Senior Advising/Senior Consulting Level Nuclear Chemistry Engineer. Works independently giving direction and managing programs in one or more of the work areas described under the job duties of the Associate Nuclear Chemistry Engineer; Primary Chemistry, Secondary Chemistry, Radiochemistry, Radioactive and Non-Radioactive Effluents, and Auxiliary Chemistry. Works independently or as team sponsor to resolve challenging plant chemistry issues. Acts as an engineering mentor. Leads root cause analysis teams for chemistry programs and problems. Develops technical policies, procedures, and contributes to the development of standards, specifications and industry guidelines such as EPRI. Represents PG&E at external industry associations, committees, and other inter-utility groups. Holds a position, chemistry related or otherwise to support plant needs, within the Emergency Response Organization or holds a position on an ERO team such as a Scenario development team. |
Scope
Resolves problems of very complex scope. Serves as a key technical resource within area of specialization. Regularly expected to apply creativity or new approaches to assignments that may be unique. May lead others on technically complex projects. Customarily and regularly uses discretion and independent judgment in fulfilling these job functions.

Interaction
Externally, establishes and maintains good relations with counterparts and higher level representatives in third party organizations using skilled negotiation, tact and diplomacy. Internal contacts include project team members, company management across various departments. Serves as the most senior level technical expert on the team. Often is a technical coach for others.

Education
BS or BA degree in chemistry or a closely-related technical discipline.

Licenses / Certifications
ANSI 402-09 - Chemistry and Radiochemistry

Experience
Mastery of the Associate, Journey and Senior level Nuclear Chemistry Engineer duties or equivalent and demonstrated knowledge and ability to perform the basic duties of the Senior Consulting Level Nuclear Chemistry Engineer. Meets specific technical and ANSI requirements gained through a minimum of thirteen years' experience at a commercial nuclear power facility.

Knowledge / Abilities
Demonstrates knowledge and abilities required for the Associate, Journey and Senior Level Nuclear Chemistry Engineer. Able to handle multiple large and complex projects without supervision and serve as team leader. Provide leadership, direction, and assistance to engineers and designers. Coach and develop Nuclear Chemistry Engineers. Successfully negotiate cost effective solutions beneficial to our customers and PG&E. Complete complex assignments with few or no precedents or standards. Apply extensive knowledge of concepts, principles and practices in a specific field or area of expertise to resolve complex problems.

ASSOCIATE NUCLEAR RADIATION PROTECTION ENGINEER (50458043)

Summary
This is an entry-level Nuclear Radiation Protection Engineer position that works under the general technical direction of a more experienced Nuclear Radiation Protection Engineer. This job is responsible for providing Radiation Protection technical support for routine projects and programs, including but not limited to: analyzing and trending data to identify adverse trends; researching industry guidelines and operating experience for proposed solutions; assisting in all aspects of procedure development and support of RP programs such as ALARA, temporary shielding, instrumentation, internal and external dosimetry, rad waste, rad material control, and the radiological environmental monitoring program.

Job Duties
Assignments during this period will generally be to assist in one or more of the work areas described below. Working areas below will require direction and supervision. With experience, the independence and responsibilities will expand and the need for supervision will decrease. This list is not all-inclusive and all items may not be applicable to a particular individual's job duties.

ALARA planning and implementation: Responsible for long term exposure reduction strategies, outage planning, temporary shielding and technology, source term removal and mitigation, processes and procedures required to implement effective ALARA controls, and the metrics associated with monitoring an ALARA program.
RP instrumentation program: Responsible for planning and implementation of programs to support the field with instrumentation for routine operations such as surveys, job coverage, release of personnel and materials, remote monitoring, air sampling, emergency response etc.

Internal and External dosimetry: Responsible for planning and implementing programs to measure, analyze, calculate and document internal and external occupational exposures at DCPP.

Radioactive Material Control: Responsible for providing technical support to the management of radioactive material and preventing the inadvertent release of that material to the public. This includes receipt and shipping of radioactive material, control of contaminated protective clothing, source control, and technical support for decontamination activities.

Radioactive Waste: Responsible for processing, packaging, storage, and shipping for both liquid and solid radioactive waste. This includes the radioactive waste minimization program, the Radwaste Classification Program and radioactive waste form Process Control Program.

Radiological Environmental Monitoring Program (REMP): Responsible for technical support for the area and environmental TLD program, Off Site Environmental Laboratory (OEL), and Ground Water Initiative.

May hold a position, RP related or otherwise to support plant needs, within the Emergency Response Organization or holds a position on an ERO team such as a scenario development team

<table>
<thead>
<tr>
<th>Scope</th>
<th>Resolves problems of limited scope. Assignments typically require standard solutions. Works under the technical direction of a journey or higher radiation protection engineer. Assignments are regularly reviewed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interaction</td>
<td>External contacts typically require obtaining and providing information to third parties. Internal contacts are with clients and project team members and project team members and typically include discussing and reporting progress, exchanging and coordinating information, and managing meetings.</td>
</tr>
<tr>
<td>Education</td>
<td>Recommended: BS or BA degree in Health Physics or a closely-related technical discipline</td>
</tr>
<tr>
<td>Licenses / Certifications</td>
<td>None</td>
</tr>
<tr>
<td>Experience</td>
<td>1-2 years’ experience in radiation protection at a nuclear power is desired.</td>
</tr>
</tbody>
</table>
| Knowledge / Abilities | • Able to apply basic radiation protection principles and theory.  
                          • Has basic knowledge of specific job functions.  
                          • Manages workload and schedule with input from supervisor.  
                          • Sets priorities, plans, and recommends solutions for basic assignments.  
                          • Approaches and plans work in an organized manner to meet project commitments.  
                          • May have separate refueling or unplanned outage assignments.  
                          • Reviews and develops procedure changes.  
                          • Evaluates and Operating Experience and provides recommendations.  
                          • May participate in benchmarking and self-assessments.   |
- Demonstrates good judgment when making decisions and recommendations.
- Frequently shows initiative and takes action proactively.

**JOURNEY NUCLEAR RADIATION PROTECTION ENGINEER (50216526)**

**Summary**
This is a journey-level Nuclear Radiation Protection Engineer position that requires mastery of the Associate level Nuclear Radiation Protection Engineer skills and duties and is responsible for leading more complex projects and work. Capable of working with minimal supervision. Uses independent judgment in applying radiation protection principles, working with minimal supervision. Interfaces with other disciplines and works with radiation protection, foremen, and technicians in assessing needs. Responsibilities beyond those of associate Nuclear Radiation Protection include, but are not limited to, the following: Developing analytical methods; writing procedures; developing technical studies, basis documents and reports, Providing guidance to contractors and outside vendors; providing radiation protection engineering support for routine projects.

**Job Duties**
Assignments during this period will generally be to assist with one or more of the work areas, or manage under direction one of the work areas described under the job duties of the Associate Nuclear Radiation Protection Engineer; ALARA planning and implementation. RP instrumentation program, Internal and External Dosimetry, Radioactive Waste, Radioactive Material Control, and the Radiological Environmental Monitoring Program.

May hold a position, radiation protection related or otherwise to support plant needs, within the Emergency Response Organization or holds a position on an ERO team such as a Scenario development team.

**Scope**
Resolves problems of moderate scope. Assignments typically require standard solutions. Assignments are regularly reviewed.

**Interaction**
External contacts are primarily coordinating, discussing, and reporting progress with third parties including contractors and vendors. May guide the work of less experienced team members. Exchanges information with others outside the team. May partner to solve problems or explore alternative solutions. Internal contacts are with clients and project team members.

**Education**
Recommended: BS or BA degree in Health Physics or a closely-related technical discipline

**Licenses / Certifications**
Successful completion of part 1 of the ABHP certification exam or ABHP certification highly desirable

**Experience**
Mastery of the Associate level Nuclear Radiation Protection job duties or equivalent and demonstrated knowledge and ability to perform the basic duties of the Journey Level Nuclear Radiation Protection. Meets specific technical requirements gained through a minimum of three years of cumulative experience Nuclear Radiation Protection.

**Knowledge / Abilities**
In addition to the Knowledge / Abilities of the Associate:
- Able to apply basic Radiation Protection principles and theory.
- Sets priorities, plans, and recommends solutions for basic assignments.
- Approaches and plans work with limited supervision in an organized manner to meet project commitments.
- Demonstrates good judgment when making decisions and recommendations.
- Frequently shows initiative and takes action as appropriate.
### Summary

This is a Senior Nuclear Radiation Protection job that requires mastery of the journey level Nuclear Radiation Protection job duties and is responsible for leading the development of radiation protection processes. Applies extensive knowledge of plant related Radiation Protection, principles, and practices to resolve complex problems with only general direction. Provides leadership, coaching, technical direction, knowledge transfer and assistance to Radiation Protection personnel and teams. Additional responsibilities beyond the Journey Level Nuclear Radiation Protection include, but are not limited to, the following: Have a thorough command of plant-Radiation Protection programs, deliver presentations, lead team meetings, and interpret industry practices and guidelines.

### Job Duties

May perform the duties of the Associate and Journey Level Nuclear Radiation Protection. Can work independently giving direction and manage programs in one or more of the work areas described under the job duties of the Associate Nuclear Radiation Protection Engineer; ALARA planning and implementation, RP instrumentation program, Internal and External dosimetry, Radioactive Waste, Radioactive Material Control, and the Radiological Environmental Monitoring Program. May act as RP engineering mentor.

Holds a position, Radiation Protection related or otherwise to support plant needs, within the Emergency Response Organization or holds a position on an ERO team such as a Scenario development team.

### Scope

Resolves problems of complex scope. Assignments may provide an opportunity for creative or non-standard approaches. Under general direction, independently plans work to meet assigned general objectives. Work may be reviewed upon completion; solution may provide an opportunity for creative non-standard approaches.

### Interactions

External contacts with industry peers, contractors, vendors, and regulatory agencies. Internal contacts with clients, project teams, and plant management. May provide technical direction to less experienced team members. Exchanges information and solves problems with others outside the team.

### Education

BS or BA degree in Health Physics or a closely-related technical discipline

### Licenses / Certifications

ABHP Certification / PE license for Radwaste desirable

### Experience

Mastery of the Associate and Journey Level Nuclear Radiation Protection job duties and demonstrated knowledge and ability to perform the basic duties of the Senior Level Nuclear Radiation Protection. Meets specific technical and ANSI requirements gained through a minimum of eight years of cumulative experience in Radiation Protection.

### Knowledge / Abilities

- Demonstrates knowledge and abilities required for the Associate and Journey Level Nuclear Radiation Protection Engineer.
- Demonstrates the ability to handle multiple large scale Radiation Protection projects without supervision.
- Demonstrate good presentation skills including knowledge transfer presentations.
- Ability to serve as a leader for the Radiation Protection Group, as well as contractors, during period of supervisory absence.
### Summary
This is a Senior Consulting / Advising Radiation Protection Engineer position that requires mastery of the Senior Radiation Protection Engineer job duties. The Senior Consulting Nuclear Radiation Protection Engineer leads complex projects, is a recognized expert within their area of responsibility, and applies extensive knowledge of concepts, principles, and practices to resolve complex problems with only general direction. Provides technical leadership, coaching, and knowledge transfer. Researches and identifies practical solutions to highly complex problems. Identifies opportunities and brings in ideas to help improve company performance. Additional responsibilities beyond the Senior Level Nuclear Radiation Protection Engineer include, but are not limited to, interpreting industry and regulatory programs, participating in industry groups such as EPRI technical working groups.

### Job Duties
May perform the duties of the Associate, Journey and Senior Level Nuclear Radiation Protection. Works independently giving direction and managing programs in one or more of the work areas described under the job duties of the Associate Nuclear Radiation Protection Engineer; ALARA planning and implementation, RP instrumentation program, Internal and External dosimetry, Radioactive Waste, Radioactive Material Control and the Radiological Environmental Monitoring Program. Works independently or as team sponsor to resolve challenging plant radiation protection issues. Acts as an engineering mentor. Leads root cause analysis teams for radiation protection programs and problems. Develops technical policies, procedures, and contributes to the development of standards, specifications and industry guidelines such as EPRI. Represents PG&E at external industry associations, committees, and other inter-utility groups. Holds a position, Radiation Protection related or otherwise, to support plant needs, within the Emergency Response Organization or holds a position on an ERO team such as a Scenario development team.

### Scope
Resolves problems of very complex scope. Serves as a key technical resource within area of specialization. Regularly expected to apply creativity or new approaches to assignments that may be unique. May lead others on technically complex projects. Customarily and regularly uses discretion and independent judgment in fulfilling these job functions.

### Interaction
Externally, establishes and maintains good relations with counterparts and higher level representatives in third party organizations using skilled negotiation, tact and diplomacy. Internal contacts include project team members, company management across various departments. Serves as the most senior level technical expert on the team. Often is a technical coach for others.

### Education
BS or BA degree in Health Physics or a closely-related technical discipline. MS in Health Physics or closely related field desired.

### Licenses / Certifications
ABHP certification or (PE for RW system engineer) desired.

### Experience
Mastery of the Associate, Journey and Senior level Nuclear Radiation Protection Engineer duties or equivalent and demonstrated knowledge and ability to perform the basic duties of the Senior Consulting Level Nuclear Radiation Protection. Meets specific technical and ANSI requirements.
### Knowledge / Abilities

- Demonstrates knowledge and abilities required for the Associate, Journey and Senior Level Nuclear Radiation Protection Engineer.
- Able to handle multiple large and complex projects without supervision and serve as team leader. Provide leadership, direction, and assistance to engineers and designers.
- Coach and develop Nuclear Radiation Protections.
- Successfully negotiate cost effective solutions beneficial to our customers and PG&E.
- Complete complex assignments with few or no precedents or standards.
- Apply extensive knowledge of concepts, principles and practices in a specific field or area of expertise to resolve complex problems.

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<table>
<thead>
<tr>
<th><strong>Principal Radiation Nuclear Protection Engineer (50478431)</strong></th>
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<tr>
<td><strong>Experience</strong></td>
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<tr>
<td><strong>Knowledge / Abilities</strong></td>
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</tbody>
</table>
leadership, direction, and assistance to engineers and designers. Coach and develop Nuclear Radiation Protections. Successfully negotiate cost effective solutions beneficial to our customers and PG&E. Complete complex assignments with few or no precedents or standards. Apply extensive knowledge of concepts, principles and practices in a specific field or area of expertise to resolve complex problems.

ASSOCIATE ENGINEER (NUC)

Summary
This is a recently-hired Engineer job that works under the general technical direction of more experienced engineers and supervisors.

Job Duties:
Initial assignments from the tasks below will require direction and supervision; with experience the independence and responsibility will expand and the need for supervision will decrease. This list is not all-inclusive and all items may not be applicable to all sections and disciplines.

- Applies standard techniques, procedures and criteria to routine and limited scope assignments.
- Has basic knowledge of their specific job function.
- Assists with or conducts walkdowns and inspections in the power plant.
- Gathers technical information from field data and other sources.
- Investigates and resolves quality-related and corrective action related equipment and programmatic issues.
- Manages workload and schedule with input from supervisor.
- Monitors, trends, reports, and resolves plant technical issues in accordance with various plant procedures and regulations.
- Performs quality reviews of technical data with respect to plant procedures and regulations.
- Enters information into the corrective action program and SAP.
- Reviews design documents and design changes or other technical documents as required.
- Participates in communication with regulatory and other outside agencies.
- Obtains qualifications to perform above tasks independently.
- May have a separate refueling or unplanned outage support assignment.
- Reviews or develops procedures.
- Evaluates Operating Experience and provides recommendations.
- May participate in Benchmarking or self assessments.
- May be required to respond to plant support callout.
- May participate in an assigned ERO position (may be part of an on-call duty team).
- May develop design documents under supervision of more senior engineer.

Job Qualifications:

Required Education
A 4-year BS Degree in Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent as defined in the FSAR/plant procedures.

Licenses / Certifications
Current and active California PE/EIT license desired, or technical equivalents for positions for which a PE/EIT is not applicable (e.g. RP engineer, Chemistry engineer, etc.)
Other qualifications as applicable to position and as determined by the supervisor.
Required Experience
Minimum 2 years' experience in engineering or science and/or completion of the new hire program, completion of ESP orientation (or equivalent), SAP proficiency desired

JOURNEY ENGINEER (NUC)

Summary
This is a journey-level engineer job that requires mastery of the Associate level engineer skills and duties and is responsible for leading the engineering and design of more complex projects and tasks. Uses independent judgment in applying engineering principles, working with limited supervision. Works with operations and maintenance personnel, engineers, project managers, and other business partners in assessing project and plant needs. Responsibilities beyond those of associate engineer include, but are not limited to, the following: Develop technical studies and reports, communicate with regulatory and other outside agencies, and provide guidance to lower engineers, contractors and outside vendors.

Job Duties:
- May perform functions of Associate level Engineer and in addition: (This list is not all-inclusive and all items may not be applicable to all sections and disciplines):
  - Provides technical expertise and performs engineering and technical analyses, studies, and develops conceptual solutions.
  - Develops and reviews design documents and design changes to ensure design basis is maintained
  - Presents findings and conclusions to internal organizations, contractors, outside vendors, regulators and management.
  - Prepares written technical documents such as design criteria, specifications, calculations and reports.
  - Develops, evaluates, and recommends alternative solutions.
  - Supports and conducts training activities
  - Interprets and applies applicable codes and regulations.
  - Performs cause evaluations.
  - May perform independent technical review of procedures.
  - Participates in self-assessments, benchmarking, audits and inspections
  - Approves reports, new drawings, and revisions to existing drawings for projects.
  - Represents PG&E to government bodies as required for assigned projects and programs.
  - Identifies, develops and presents long term equipment plans, including budget, priority, solution and need
  - Performs independent reviews of technical documents, calculations and procedures
  - May lead limited scope or single discipline projects within engineering.
  - May act as contract manager for limited scope engineering projects.
  - Takes ownership of problems and their solutions.
  - Evaluates industry guidelines and information with respect to programs and procedures.
  - Initiates and routes contract related documents for approval
  - May act as test lead for infrequently performed or new test procedures
  - May participate on a troubleshooting team.
  - Has sufficient understanding of design basis, plant operations, components, systems as required to perform the above.

Job Qualifications:
Required Education
A 4-year BS Degree in Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent as defined in ANSI standards

Licenses / Certifications
Current and active California PE/EIT license desired, or technical equivalents for positions for which a PE/EIT is not applicable (e.g. RP engineer, Chemistry engineer, etc.)
Other qualifications as applicable to position and as determined by the supervisor.

Required Experience
Mastery of the Associate level Engineer job duties or equivalent and demonstrated knowledge and ability to perform the basic duties of the Journey Level Engineer. Meets specific technical requirements gained through a minimum of four years of cumulative experience in engineering and science. Has obtained applicable qualifications for position as specified in the Engineering Support Personnel training program.

SENIOR ENGINEER (NUC)

Summary
This category is for the engineer that has acquired extensive knowledge of concepts, principles and practices, and works independently with only general direction. This senior engineer provides technical direction to engineers and completes assignments that require integration with other departments and are of broad scope and complexity.

Job Duties:
- May perform functions of Associate and Journey level Engineers and in addition: (This list is not all-inclusive and all items may not be applicable to all sections and disciplines)
- Applies extensive knowledge of concepts, principles and practices in a specific discipline, field or area of expertise to resolve complex problems.
- Works independently with only general direction
- Provides technical direction to entry and journey employees
- Completes assignments of broad scope and complexity with few precedents or standards.
- Completes assignments that require integration of information from a variety of sources.
- Leads large, complex (multi-discipline, multi-group) technical projects for DCPP.
- Perform as OJT/TPE evaluator as assigned.
- Provide support to other departments in technical and engineering areas.
- Acts as a mentor for journey or associate engineers.
- May lead troubleshooting or problem resolution teams.

Job Qualifications:

Required Education
A 4-year BS Degree in Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent as defined in ANSI standards, MA/MS/PHD desired

Licenses / Certifications
Current and active California PE license desired, or technical equivalents for positions for which a PE/EIT is not applicable (e.g. RP engineer, Chemistry engineer, etc.)
Other qualifications as applicable to position.
Required Experience
Mastery of the Associate and Journey level Engineer job duties and demonstrated knowledge and ability to perform the basic duties of the Senior Engineer.

SR CONSULTING/ SR. ADVISING ENGINEER (NUC)

Summary
This category is for the engineer that has acquired extensive knowledge in a specific discipline or area of expertise that has the recognition for such knowledge by the industry in general. This engineer provides technical input to industry organizations; works independently and provides analysis techniques to develop creative solutions. For Sr Consulting position the engineer must possess an appropriate professional engineer license.

Job Duties:
- May perform the functions of Associate, Journey and Senior level Engineer and in addition: (This list is not all-inclusive and all items may not be applicable to all sections and disciplines
- Lead large highly complex (multi-discipline, multi-group) projects and perform technical analyses, studies, and develop conceptual solutions.
- Develop innovative solutions to solve challenging technical issues.
- Acts as a lead in cause analysis and makes recommendations to address local and plant-wide problems.
- Acts as a company witness, liaison, and/or information provider to outside parties.
- Develops technical policies, procedures, and contributes to the development of standards, specifications, construction documents, and guidelines.
- Represents PG&E with regulatory agencies and at external industry associations, committees, trade organizations and other inter-utility groups.
- Provide internal consulting for PGandE in areas of expertise.
- Must be recognized by peers as an expert in their field.
- Provide consulting to management in an area which is strategically important to PGandE’s business and which is best served with in-house expertise.
- Makes significant contribution in the formation of PGandE strategy on key technical issues.
- Routinely called upon by management to provide advice or leadership on issues that are of strategic importance to PGandE.
- Has demonstrated advanced knowledge of concepts, principles and practices in specific discipline, field, or area of expertise.

Job Qualifications

Required Education
A 4-year BS Degree in Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent as defined in ANSI standards, MA/MS/PHD desired

Required Licenses / Certifications
Current California PE license required for consulting position or technical equivalents for positions for which a PE/EIT is not applicable (e.g. RP engineer, Chemistry engineer, etc.)
Other qualifications as applicable to position.

Experience
Mastery of the Associate, Journey, and Senior level engineer job duties and demonstrated knowledge and ability to perform the basic duties of the Senior Consulting/Advising Engineer.
Principal Engineer (NUC)

Summary
This category is for the engineer that has acquired extensive knowledge in a specific discipline or area of expertise that has the recognition for such knowledge by the industry in general. This engineer provides technical input to industry organizations; works independently and provides analysis techniques to develop creative solutions. PG&E will limit number of individuals that can attain this position.

Job Duties:
- May perform the functions of Associate, Journey, Senior level Engineer and Senior Consulting/Advising Engineer and in addition: (This list is not all-inclusive and all items may not be applicable to all sections and disciplines)
- Lead large highly complex (multi-discipline, multi-group) projects and perform technical analyses, studies, and develop conceptual solutions.
- Develop innovative solutions to solve challenging technical issues.
- Acts as a lead in cause analysis and makes recommendations to address local and plant-wide problems.
- Acts as a company witness, liaison, and/or information provider to outside parties.
- Develops technical policies, procedures, and contributes to the development of standards, specifications, construction documents, and guidelines.
- Represents PG&E with regulatory agencies and at external industry associations, committees, trade organizations and other inter-utility groups.
- Provide internal consulting for PGandE in areas of expertise.
- Must be recognized in the industry as an expert in their field.
- Provide consulting to management in an area which is strategically important to PGandE’s business and which is best served with in-house expertise.
- Makes significant contribution in the formation of PGandE strategy on key technical issues.
- Routinely called upon by management and others in the industry to provide advice or leadership on issues that are of strategic importance to PGandE.
- Has demonstrated advanced knowledge of concepts, principles and practices in specific discipline, field, or area of expertise.

Job Qualifications

Required
Education
A 4-year BS Degree in Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent as defined in ANSI standards, MA/MS/PHD desired

Required Licenses / Certifications
Current California PE license desired or technical equivalents for positions for which a PE/EIT is not applicable (e.g. RP engineer, Chemistry engineer, etc.)
Other qualifications as applicable to position.

Experience
Mastery of the Associate, Journey, Senior engineer and Senior Consulting/Advising level Engineer job duties and demonstrated knowledge and ability to perform the basic duties of the Principal Engineer.
(Nuc) Biologist (50312848)

Summary
This position is a journey level Biologist position responsible for biological and environmental operating permit compliance related work at Diablo Canyon Power Plant (DCPP).

Job Duties
- Support National Pollutant Discharge Elimination System (NPDES) permit compliance monitoring and reporting program. Develop assigned sections of NPDES monitoring reports. Provide NPDES report data verification and review as required. Perform verbal and/or written notifications to regulatory agencies for unplanned releases or permit exceedances.
- Support and implement plant operating permit ecological monitoring or mitigation programs.
- Support power plant biofouling control programs. Implement as assigned chemical treatment programs for the circulating seawater conduits. Operate seawater conduit chemical injection systems, program and monitor associate control systems, determine appropriate chemical treatment rates and adjust controls as required. Coordinate as necessary with plant or contracted systems equipment owners to resolve operational concerns.
- Participate in alternative marine antifouling treatment or coating initiatives and investigations.
- Support monitoring of seawater systems biological fouling. Provide recommendations as requested on the scheduling of conduit (tunnel) cleanings. Develop as requested trending and assessments of condenser fouling in support of power plant operational decision making.
- Support operation of chlorine injection and wastewater chlorine discharge monitoring systems. Coordinate as necessary with plant or contracted resources to assess and repair malfunctioning monitoring equipment. Track and trend seawater system chemical treatment and discharge chlorine discharge concentrations to continuously optimize chemical use.
- Support marine kelp and debris control programs. Provide oversight and coordination of contracted intake cove kelp and debris control activities.
- Support the development of plant operational guidance and recommendations to effectively manage marine debris or organism (jellyfish, salps, schooling fishes, etc.) intrusion events. Evaluate plant and industry Operational Experience (OE) related to power plant cooling system debris fouling and intake operability and incorporate into guidance and recommendations.
- Participate in DCPP’s scientific diving and marine craft operation programs.
- Support ocean swell impacts assessment activities and related plant information and operational decision making activities. Monitor and/or develop ocean storm wave forecasts as assigned. Support the development, use, and continuous improvement of plant storm impacts assessment tools and software programs.
- Provide operational recommendations to plant management as requested based on ocean storm forecasts, intake impacts assessments, and historical plant performance during ocean events.
- Support terrestrial animal control initiatives (raccoon, rattlesnake, etc. intrusions). Coordinate with power plant facilities services or contracted resources to resolve acute or chronic animal intrusion events within the industrial site boundary.
- Track and resolve assigned Nuclear Power Generation (NPG) Corrective Action Program (CAP) issues or initiatives for areas of responsibility.
• Support other (Non-NPDES) plant environmental compliance programs as assigned including review of environmental regulatory agency submittals, collection and verification of data, and development of permit or certification applications.
• Support power plant operational seawater cooling systems biological and debris fouling control programs.
• May participate in an assigned Emergency Response Organization position (may be part of an on-call duty team)

Knowledge / Abilities
• Competent knowledge of DCPP wastewater discharge (NPDES) permit compliance monitoring and reporting program.
• Competent knowledge of DCPP ecological monitoring or mitigation programs.
• Competent knowledge of local marine and terrestrial species taxonomy.
• Competent knowledge of DCPP systems, structures, components and facilities.
• Competent knowledge of endangered and protected species laws and requirements.
• Proficiency in intake cove breakwater algal surveys and intake bar rack inspections.
• Proficiency in marine craft operations.
• Proficiency in standard office and business unit computer software applications.
• Proficiency in use of instrumentation and scientific data for trending and assessment.

Qualifications - Minimum
3 years’ experience industrial operations support involving biological, ecological, environmental compliance, or related scientific or technical work. Bachelor’s degree in biological science, ecological studies, or related scientific or technical field from an accredited college, or equivalent education and experience.

(NUC) SENIOR BIOLOGIST (50229560)

Summary
This position is a fully qualified, career-oriented, Senior Biologist position requiring mastery of the journey level Biologist job duties. Additional responsibilities related to oversight and implementation of power plant operating permit ecological monitoring or mitigation projects, and power plant cooling systems biological fouling control programs.

Job Duties
• An employee who performs the duties of a Biologist and may be required to perform such additional duties as supporting developing training programs, performing training, directing, reviewing, and/or approving the work, of a journey level Biologist, and reviewing and assisting supervisors in coordinating and scheduling work assignments. It is recognized that such duties may also be performed by non-unit supervisors.

• Develop and implement plant programs and procedures associated with assigned environmental operating permit ecological monitoring or mitigation projects.

• Implement quality program oversight and verification of procedure and permit adherence related to assigned plant ecological monitoring or mitigation programs.

• Implement continuous improvement of plant systems biological fouling control programs. Monitor related industry Operational Experience (OE), and evaluate new or developing alternative fouling inhibition or treatment methodologies. Function as technical coordinator for assigned fouling alternative research and investigation initiatives.

• Implement assigned plant intake cove kelp and debris control programs. Function as technical coordinator for contracted debris management program resources. Coordinate
marine craft maintenance and purchasing initiatives as necessary in support of intake programs. Provide oversight as assigned for marine equipment inspections, deployment, retrieval, and maintenance.

Qualifications – Minimum
8 years’ experience as journey level Biologist or equivalent.

(NUC) EMERGENCY PLANNING COORDINATOR (50252998)

Summary
This position is a journey level Emergency Planning Coordinator position responsible for emergency planning work at Diablo Canyon Power Plant (DCPP).

Job Duties
- Coordination of reviews and revisions to DCPP Emergency Plan and Implementing Procedures.
- Coordination with stakeholders (e.g., plant, local, state, federal) in developing drill schedules.
- Preparation of extent of play and selection of appropriate objectives for each drill.
- Coordination of scenario development team (e.g., Operations, Radiation Protection, Chemistry, Security, Offsite Response Organizations.)
- Coordinate drill logistics, communications, and drill play for multiple facilities (Control Room Simulator, Technical Support Center, Operations Support Center, Emergency Operations Facility, Unified Dose Assessment Center, and Joint Information Center.
- Coordination of post-drill critiques and drill-related corrective actions.
- Preparation of emergency drill reports.
- Preparation of post-emergency event reports.
- Develop materials to support player, controller and evaluator briefings.
- Coordinate and conduct Emergency Response Organization (ERO) personnel training and qualification.
- Develop and maintain ERO training lesson guides, computer based training and tests.
- Coordination of ERO vacancies, ERO rosters, call-out database and notification directory.
- Coordinate maintenance of Emergency Planning facilities and equipment, replacement and repair of equipment and implementation of preventative maintenance program.
- Oversight and evaluation of emergency plan impacts and associated compensatory measures from planned and unplanned equipment unavailability or outages.
- Coordination of routine offsite interface with San Luis Obispo County and training of emergency response personnel.
- Coordination of emergency public information and education program.
- Develop and maintain Emergency Planning website and ERO operating experience communications.
- May participate in an assigned ERO position (may be part of an on-call duty team)

Knowledge / Abilities
- Strong computer skills (Word, Excel, Access, PowerPoint, Visio)
- Strong communications skills.
- Security Safeguards Information (SGI) qualification.
- Knowledge of federal regulations 10CFR50.47(b), 10CFR50 Appendix E, NUREG-0654 and DCPP emergency plan program requirements.
- Knowledge and experience with DCPP systems, components and structures is desired
- Familiarity with DCPP Control Room Simulator is desired.
- Certification and training in Incident Command System and Homeland Security Exercise & Evaluation Program is desired.

**Qualifications - Minimum**
3 years’ experience in nuclear power plant operations, security, training, radiation protection and/or engineering if PG&E / 4 years if outside hire.

**NC) Senior Emergency Planning Coordinator (50252974)**

**Summary**
This position is the fully qualified, career-oriented, Senior Emergency Planning Coordinator position that requires mastery of the journey level emergency planning coordinator job duties.

**Job Duties**
An employee who performs the duties of an Emergency Planning Coordinator and may be required to perform such additional duties as supporting developing training programs, directing, reviewing, an/or approving the work, of a journey level Emergency Planning Coordinator, and reviewing and assisting in coordinating and scheduling work assignments. It is recognized that such duties may also be performed by non-unit supervisors.

**Qualifications - Minimum**
8 years’ experience as an Emergency Planning Coordinator or equivalent.

**(NC) Senior Outage Window Manager (50311305)**

**Summary**
This position is a fully qualified, career-oriented, Senior Outage Window Manager responsible for outage window management work at Diablo Canyon Power Plant (DCPP).

**Job Duties**
- Ensure that procedural guidelines are followed for the development, review, and implementation of the outage schedule including the appropriate scope freeze deadlines and scope control during the outage in accordance with work control guidelines and applicable procedures.
- Review the outage schedule placement of maintenance, modifications, engineering tests and walk-downs, and operation's activities including Surveillance Test Procedures, and clearances during T-0 on-line or off-line due to curtailments and / or unit trips.
- Review all outage scheduled work for license basis impact. Coordinate with Operations to understand and plan for these impacts.
- Interface with operations, maintenance teams, system engineers, and preventive maintenance, and Surveillance Test Procedure program owners.
- Act as the single point of contact for scheduled activities and their interfaces to plant organizations during the outage planning phases.
- Provide a direct interface between Maintenance, Engineering, Radiation Protection, Chemistry, Security, and Operations personnel with the goal of keeping attention focused on completing outage work as scheduled.
- Perform evaluation of emergent outage work, coordinate and approve all additions to the schedule in accordance with guidelines, and applicable procedures.
- Lead Outage Safety Schedule and Plan development and meetings, pre and post outage as required.
During all reviews endeavor to schedule activities in a way that supports ALARA radiation work practices, and supports a safe working environment for both personnel and plant equipment.

Review, prioritize and categorize all outage SAP equipment deficiency Notifications.

Uses independent judgment in selecting and applying maintenance scheduling methods and techniques to determine cost-effective and practical solutions.

Coordinate pre-outage schedules in accordance with applicable procedures, scheduling guidelines, and the DCPP 12 week matrix framework to support outage goals.

Provide oversight for refueling outage scope control, approve outage scope, support High Impact Teams, and track Outage Milestones and oversight on Long Range Outage Plans.

Advise on modifications or enhancements related to coordination and scheduling of maintenance work control process, and procedures affecting internal and/or external organizations. This includes coordination with power generation in San Francisco, and DCPP 500 kv yard directly or with B-1 notifications.

Provide oversight for refueling outage scope control by leading the Outage Scope Review Team and weekly Notification review meeting.

Maintain Long Range Outage Plans by monitoring the Plant Health process and working with strategic project sponsors.

Support tracking and completion of outage milestones and provide support to Outage Scheduling during schedule development and reviews.

Promote continuous improvement in outage performance through benchmarking and support of the Outage Lessons Learned program

Perform oversight of all containment activities during refueling outages as Outage Containment Coordinator.

Support Outage Management in various aspects of outages, including development and maintenance of project controls and processes.

Lead scheduling personnel in building schedules related to outage activities. Provide direction, information and advice regarding the schedule to all other groups.

Coordinate outage work of maintenance, engineering, construction, support and contractor groups, with awareness of changing schedule, As Low As Reasonably Achievable (ALARA) radiation protection issues, and overall priorities. Prioritize use of containment equipment and resources, such as cranes, services and ventilation.

May be required to perform such additional duties as support developing training programs, performing training, directing, reviewing, and/or approving the work of a journey level Outage Window Manager, and assisting supervisors in coordinating and scheduling work assignments. It is recognized that such duties may also be performed by non-unit supervisors.

May participate in an assigned Emergency Response Organization position (may be part of an on-call duty team)

Knowledge / Abilities

- Knowledge of the T-12 Work Control process and procedures.
- Knowledge of DCPP scheduling processes and tools (ORAM, Remos, SAP, ESOMS, Action Tracking, PIMS).
- Knowledge of DCPP Technical Specifications
- Knowledgeable and experience with DCPP maintenance work control processes, guidelines, and procedures.
- Knowledgeable and experience with DCPP systems, structures, components and facilities.
- Knowledge of Senior Reactor Operator/Reactor Operator License requirements.
- Knowledge with Primavera Project Planner (P3E) scheduling software and all scheduling tools including milestone structure and work monitoring.
- Knowledge of plant system interfaces and interactions.
Qualifications - Minimum
8 years’ experience in operating nuclear power plant, operations, engineering and/or maintenance / 9 years if outside hire. Senior Reactor Operator / Reactor Operator license or certification may be required.

(NUC) MAINTENANCE COORDINATOR (50229564)

Summary
This position is a journey level Maintenance Coordinator position responsible for maintenance coordinator work at Diablo Canyon Power Plant (DCPP).

Job Duties
- Perform daily scheduling of maintenance and modifications activities to be accomplished while plant is on-line using the plant work control process.
- Develop project/system schedules in accordance with applicable procedure scheduling guidelines and the DCPP 12 week matrix framework, Maintenance Outage Windows (MOW) matrix, and bus/train relationships.
- Coordinate with maintenance supervisors, security, engineering, operations personnel, and preventive maintenance (PM) and Surveillance Test Procedure (STP) programs, to develop crew work schedules.
- Schedule maintenance activities to support good radiation worker practices in order to minimize personnel exposure.
- Ensure work activities are scheduled to support a safe working environment, for both personnel and equipment.
- Periodically attend and provide assigned maintenance department job progress status at the daily update meetings.
- Coordinate emergent work flow among maintenance teams.
- Ensure Preventive Maintenance (PM) and Surveillance Test Procedures (STP) are scheduled and performed to meet commitment dates.
- Support daily schedule goals by reinforcing maintenance coordination fundamentals.
- Advise on modifications or enhancements related to coordination and scheduling of maintenance work control process procedures affecting internal and/or external organizations.
- May participate in an assigned Emergency Response Organization position (may be part of an on-call duty team)

Knowledge / Abilities
- Knowledge and experience with Diablo Canyon Power Plant maintenance work control processes.
- Knowledge with Primavera Project Planner (P3E) scheduling software.

Qualifications - Minimum
3 years’ experience in scheduling, project management, engineering, maintenance and/or construction if PG&E or 4 years’ experience from another company.

(NUC) SENIOR MAINTENANCE COORDINATOR (50312853)

Summary
This position is the fully qualified, career-oriented, Senior Maintenance Coordinator position that requires mastery of the journey level Maintenance Coordinator job duties.
Job Duties
- An employee who performs the duties of a Maintenance Coordinator and may be required to perform such additional duties as supporting developing training programs, performing training, directing, reviewing, and/or approving the work, of a journey level Maintenance Coordinator; and reviewing and assisting supervisors in coordinating and scheduling work assignments. It is recognized that such duties may also be performed by non-unit supervisors.

Qualifications - Minimum
8 years’ experience as a Maintenance Coordinator or equivalent

(NUC) ASSOCIATE PERFORMANCE IMPROVEMENT COORDINATOR (50253122)

Summary
This associate level Performance Improvement Coordinator position is the first in a progression responsible for performance improvement work at Diablo Canyon Power Plant (DCPP).

Job Duties
- Assist in the review/evaluation of performance data from corrective action, and Performance Improvement (PI) programs, and other sources to identify issue significance, potential trends, strengths, improvement opportunities, and performance shortfalls.
- Assist as requested in the development and implementation of strategies to improve organizational performance.
- Provide recommendations to management on when to escalate events of concern for accelerated review and correction.
- Participate as requested in the investigation of events and trends, and the creation and posting of Event bulletins.
- Participate as requested in benchmarking, assessment, event cause determination and other performance improvement activities.
- Assigning trend codes to condition reports as requested.
- May participate in an assigned Emergency Response Organization position (may be part of an on-call duty team)

Knowledge / Abilities
- Basic knowledge and experience with DCPP Corrective Action and Performance Improvement Programs.
- Basic knowledge and experience with DCPP Human Performance Program.
- Good communication skills.

Qualifications - Minimum
1 year experience in supporting nuclear power operations in operations, engineering, maintenance, chemistry/radiation protection, site services, strategic projects, and/or training if PG&E or 2 years’ experience in the same field(s) or in performance improvement activities from another company.

(NUC) JOURNEY PERFORMANCE IMPROVEMENT COORDINATOR (50253123)

Summary
This position is a journey level Performance Improvement Coordinator position responsible for performance improvement work at Diablo Canyon Power Plant (DCPP).
Job Duties
Is able to perform the job duties of an Associate Performance Improvement Coordinator. Additional job duties include:

- Perform as directed the review/evaluation of performance data from corrective action, and Performance Improvement (PI) programs, and other sources to identify and communicate issue significance, potential trends, strengths, improvement opportunities, and performance shortfalls. Prepare draft trend/analysis reports for management review/approval.
- Participate in/perform cause evaluations as assigned, including Root, Apparent, and Common Cause evaluations, Human Error Investigation Tools (HEIT) and Work Group Evaluations (WGE).
- Provide recommendations to management and individual contributors on effective implementation of corrective action and performance improvement programs.
- Support development and implementation ownership of strategies to improve organizational performance.
- Assembling and publishing performance indicator information for internal or external use as assigned.

Knowledge / Abilities
- Use independent judgment in selecting, recommending, and applying performance improvement methods and techniques to determine cost-effective and practical solutions.
- Knowledge and experience with DCPP corrective action and performance improvement programs.
- Knowledge and experience with DCPP Human Performance (HU) program.
- Knowledge and experience in cause analysis techniques and problem solving.
- Knowledge in event investigation and interviewing.
- Proficiency in computer software used for trending data and compiling and displaying performance indicator data.

Qualifications - Minimum
3 years’ experience in supporting operating nuclear power plant operations in operations, engineering, maintenance, chemistry/radiation protection, site services, strategic projects, and/or training if PG&E or 4 years of the same experience from another company.

(NUC) SENIOR PERFORMANCE IMPROVEMENT COORDINATOR (50253124)

Summary
This position is the fully qualified, career-oriented, Senior Performance Improvement Coordinator position that requires mastery of the journey level Performance Improvement Coordinator job duties.

Job Duties
An employee who performs the duties of a Performance Improvement Coordinator and may be required to perform such additional duties as supporting developing training programs, performing training, directing, reviewing and/or approving the work, of an associate or journey level Performance Improvement Coordinator, and assisting supervisors in coordinating and scheduling work assignments. It is recognized that such duties may also be performed by non-unit supervisors.

Qualifications - Minimum
8 years’ experience as a Performance Improvement Coordinator or equivalent
(NUC) PROCEDURE WRITER – TECHNICAL (50312858)

Summary
This position is a journey level Procedure Writer – Technical position responsible for administrative and maintenance procedure writing work at Diablo Canyon Power Plant (DCPP).

Job Duties
- Write, revise, and review administrative and maintenance procedures per administrative requirements.
- Gather research information through interviews, field walkdowns, and review of the design bases, licensing bases, and operating experience.
- Determine effective implementation methods and strategies based on benefits, risks, and cost.
- Evaluate and determine applicability of all input to ensure compliance with requirements.
- Maintain files and records of the research and final documentation, including any technical basis and calculations.
- Generate and revise procedure basis documents and calculations.
- Provide complete history documentation for each procedure change.
- Screen procedure change requests for suitability and clarity and provide feedback as necessary.
- Sponsor changes to procedures.
- Sponsor other discipline procedure changes if technically knowledgeable of the changes.
- Facilitate procedure changes and assist plant personnel in the use and interpretation of procedures.
- Provide technical assistance to plant personnel in areas of expertise.
- Perform independent technical reviews of procedures if qualified and as directed by management.
- Participate in project and/or schedule development to coordinate and integrate procedure support with activities of other site organizations.
- Participate in industry groups as approved by management.
- May participate in an assigned Emergency Response Organization position (may be part of an on-call duty team)

Knowledge / Abilities
- Subject matter expert level knowledge and experience in the area of specialty (e.g., electrical maintenance, I&C, mechanical maintenance, administrative).
- Knowledge and experience with DCPP administrative processes, systems, structures, components, and facilities.
- Ability to obtain and maintain a procedure sponsor qualification in a reasonable amount of time.
- Ability to obtain and maintain a 10CFR 50.59/72.48 screen qualification in a reasonable amount of time.
- Basic computer literacy and the ability to become proficient in procedure related software and applications in a reasonable amount of time.
- Participation in activities to improve job-specific skills.
- Good oral and written communication skills.

Qualifications - Minimum
ANSI/ANS 3.1 qualification for the specific position, a Bachelor’s Degree in engineering or the physical sciences as appropriate and three years of professional level experience in the field of specialty, or eight years of power plant experience in the field of specialty.
(NUC) SENIOR PROCEDURE WRITER – TECHNICAL (50312859)

Summary
This position is the fully qualified, career-oriented, Senior Procedure Writer - Technical position that requires mastery of the journey level Procedure Writer - Technical job duties.

Job Duties
An employee who performs the duties of a Procedure Writer - Technical, and may be required to perform such additional duties as supporting developing training programs, performing training, directing, reviewing, and/or approving the work of a journey level Procedure Writer – Technical, and assisting supervisors in coordinating and scheduling work assignments. It is recognized that such duties may also be performed by non-unit supervisors.

Qualifications - Minimum
- 8 years' experience as a Procedure Writer - Technical or equivalent.
- Qualified to perform 10CFR 50.59/72.48 screens and independent technical reviews.

(NUC) ASSOCIATE PROCUREMENT TECHNICAL SPECIALIST (50238147)

Summary
This associate level Procurement Technical Specialist position is the first in a progression and is responsible for procurement technical work at Diablo Canyon Power Plant (DCPP).

Job Duties
- Perform technical and quality reviews for the procurement of materials and services.
- Develop and maintain material masters.
- Analyze components and piece parts for safety classification.
- Classify Material and Services.
- Develop and maintain inspection plans and characteristics.
- Implement and perform cross-discipline review of equivalency evaluations and other engineering design documents.
- Create quality information records and Document Management System documents.
- Maintain bills of material and perform updates to the component database.
- May participate in an assigned Emergency Response Organization position (may be part of an on-call duty team)

Knowledge / Abilities
- Ability to work with both internal and external customers/clients.
- Technical knowledge of mechanical, electrical or instrumentation and control material and equipment.
- Strong communications and analytical skills.
  Business computer skills such as Microsoft Office Suite Programs (emphasis on Excel, Word, and MS Project),

Qualifications - Minimum
- 1 year experience in related supply chain, nuclear power, or technical knowledge if PG&E or 2 years’ experience in the same field from another company.
  Or
- A 2-year AA Degree in a technical related discipline from an accredited curriculum in the US or the equivalent from outside the US.
  Or
- Possess one of the following Professional Industry Certifications:
  o ISM Certified Professional in Supply Management (CPSM)


**ISM Certified Purchasing Manager (CPM)**

**APICS Certified in Production and Inventory Management (CPIM)**

**APICS Certified Supply Chain Professional (CSCP)**

**NCMA Certified Professional Contracts Manager (CPCM)**

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**Summary**

This position is a journey level Procurement Technical Specialist position responsible for procurement technical work at Diablo Canyon Power Plant (DCPP).

**Job Duties**

Is able to perform the job duties of an associate Procurement Tech Specialist. Additional job duties include:

- Develop material purchase specifications
- Lead, direct, and participate in special projects
- Recommends and takes action to direct the analysis and resolution of problems.

**Knowledge / Abilities**

- Knowledge and experience with DCPP systems, structures, components and facilities.
- Knowledge and experience with DCPP procurement procedures.
- Knowledge of DCPP Plant Systems and Drawings.
- Fluent and understands engineering, maintenance, strategic projects and supply chain cross-discipline processes.
- Uses independent judgment in selecting and applying procurement methods and techniques to determine cost-effective and practical solutions.
- Proficient in SAP engineering, work control, strategic projects and supply chain modules.
- Proficient in SAP and the technical procurement reviews of services and materials including special engineering specifications and special material processes (ASME, EQ).
- Proficient and knowledgeable of company supplier diversity program.

**Qualifications - Minimum**

- 3 years’ experience in related supply chain, nuclear power, or technical knowledge if PG&E or 4 years’ experience in the same field from another company.

- A 2-year AA Degree in a technical related discipline from an accredited curriculum in the US or the equivalent from outside the US.

Or

- Possess one of the following Professional Industry Certifications:
  - ISM Certified Professional in Supply Management (CPSM)
  - ISM Certified Purchasing Manager (CPM)
  - **APICS Certified in Production and Inventory Management (CPIM)**
  - APICS Certified Supply Chain Professional (CSCP)
  - NCMA Certified Professional Contracts Manager (CPCM)

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**Summary**

This job is the fully qualified, career-oriented, Senior Procurement Technical Specialist position that requires mastery of the journey level Procurement Technical Specialist job duties, at Diablo Canyon Power Plant (DCPP).

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Job Duties

- An employee who performs the duties of a Procurement Technical Specialist and may be required to perform such additional duties as supporting developing training programs, performing training, directing, reviewing, and/or approving the work of an associate or journey level Procurement Technical Specialist, and assisting supervisors in coordinating and scheduling work assignments. It is recognized that such duties may also be performed by non-unit supervisors.

Knowledge / Abilities

- Ability to perform procedure sponsor qualification (TPROC).
- Ability to perform 10CFR50.59 Applicability Determination (TLBIEAD).
- Ability to perform independent technical reviews (PRITR)

Qualifications - Minimum

- 8 years’ experience in related supply chain, nuclear power, or technical knowledge if PG&E or 9 years’ experience in the same field from another company.
- A 4-year BS/BA Degree in a technical related discipline from an accredited curriculum in the US or the equivalent from outside the US.
- Possess one of the following Professional Industry Certifications:
  - ISM Certified Professional in Supply Management (CPSM)
  - ISM Certified Purchasing Manager (CPM)
  - APICS Certified in Production and Inventory Management (CPIM)
  - APICS Certified Supply Chain Professional (CSCP)
  - NCMA Certified Professional Contracts Manager (CPCM)
- Must pass the following training courses and possess qualifications if PG&E or pass training courses and obtain qualifications within 6 months of hire if from another company:
  - EPRI Nuclear Procurement Training course
  - DCPP Systems Training course.
  - DCPP qualification for Nuclear Quality Procurement Reviewer (ASME PROCURE) Mechanical discipline only.
  - DCPP qualification for Procedure Sponsor/Preparer (TPROC)
  - DCPP qualification for Independent Technical Reviewer (PRITR).
  - DCPP qualification for License Basis Impact Evaluation 10CFR50.59 Applicability Determination (TLBIEAD).

(NUC) Records Analyst (50229571)

Summary
This position is a journey level Records Analyst position responsible for records analyst work at Diablo Canyon Power Plant (DCPP).

Job Duties

- As the subject matter expert for the records management program, monitor its day to day implementation and continuously seek to improve its quality, efficiency, and effectiveness.
Advise on methods and techniques to enhance the records management program. Solutions to comply with existing programmatic requirements or required changes to programmatic requirements shall be identified.

Provide technical advice and support to plant staff in the implementation of the records management program.

Monitor records control program implementation, communicate potential compliance issues to management, and recommend corrective actions.

Provide records management program indoctrination to plant staff.

Advise on the design and changes of information management systems to ensure that records management program requirements are incorporated.

Assist with problem resolution for information management systems and applications.

Perform acceptability testing of new and/or upgraded records management program software.

Contribute to the preparation of and maintain records management program procedures and desk guides.

Evaluate, assess, and recommend format and media and related practices for the records management program.

May participate in an assigned Emergency Response Organization position (may be part of an on-call duty team).

Knowledge / Abilities
- Knowledge and experience with DCPP records management program and associated software.
- Fluent in the use of records management tools, modules, and software.

Qualifications - Minimum
3 years’ experience in document control and records management.

(NUC) TECHNICAL ANALYST (50229574)

Summary
This position is a journey level Technical Analyst position responsible for technical analyst work at Diablo Canyon Power Plant (DCPP).

Job Duties
- Manage word processing templates and software.
- Develop or modify word processing templates, develop written guidance and provide training.
- Determine methods for implementing various procedure improvement projects.
- Monitor project implementation to ensure proper results.
- Change procedures based on general procedure guidance to incorporate various administrative controls.
- Complete procedure change documentation and track to completion.
- Perform acceptability testing of new and/or upgraded word processing, publishing and document management software.
- Provide technical support to users of the various procedure applications.
- Provide technical direction to the clerical staff in the execution of routine work and projects.
- Advise on methods and techniques to enhance procedure processes. Solutions to comply with existing procedure requirements and/or identify changes needed to procedure requirements.
- As the subject matter expert for the procedure control process, monitor its day to day implementation and continuously seek to improve its quality, efficiency, and
effectiveness. Provide sufficient documentation of the procedure control processes in procedures and other written guidance.

- May participate in an assigned Emergency Response Organization position (may be part of an on-call duty team)

**Knowledge / Abilities**

- Knowledge and experience with DCPP procedure control programs and software.
- Fluent in the use of procedure development software.

**Qualifications - Minimum**

3 years’ experience in procedure development, scheduling, project management, engineering and/or construction if PG&E or 4 years’ experience from another company.

**(NUC) FINANCIAL ANALYST (50312851)**

**Summary**

This position is a journey level Financial Analyst position responsible for financial analyst work at Diablo Canyon Power Plant (DCPP).

**Job Duties**

- Provide budgeting and cost forecasting based on project assignments.
- Provide project managers and leadership with capital accounting support to insure compliance with corporate policies and standards.
- Support cost accounting processes and report on future targets.
- Provide functional department support to update local policies, financial guidelines, templates, and instructions.
- Proactively monitor costs and coordinate the correction of cost accounting errors.
- Review partner costs on a monthly basis, alert project managers of potential impacts to project forecasts, and make recommendations for corrections.
- Prepare financial reports with analyses of key drivers causing significant variances.
- Prepare budget trade requests and releases.
- Prepare project estimates, cost plans, and work breakdown structures.
- Provide support for annual input and updates to DCPP’s Financial Cost Model and Long Term Plan.
- Provide recommendations on modifications or enhancements related to business control processes affecting internal and/or external organizations.
- Interface with corporate auditors.
- Perform journal entries to correct accounting and project charging errors.
- Participate on Corporate Project Governance teams.
- Provide Corporate Project Governance information and training to project management personnel.
- Communicate regularly with PG&E Officers, managers, and critical project partners.
- Maintain and provide periodic reporting of project financial data to plant management.
- Provide leadership and staff with monthly high level capital and expense reports for all DCPP projects identifying project estimate and budget threats and opportunities.
- Partner with Business and Financial Services to develop and/or monitor corrective action plans.
- Develop and implement analytical techniques and reports to gain insights on operational results.
- Participate on teams to implement best business practices.
- Provide project managers and leadership with project financial support.
- Provide financial support to project managers and leadership in all areas of DCPP’s plant health process.
• Provide cost management support for major capital projects including review and analysis of project cost estimates, expenditures, and forecasts.
• Create and update high level and detail cost reports in order to provide project financial information to project managers and stakeholders.
• Interface with DCPP Business and Financial Services to support and facilitate project management's financial processes.
• Participate in the continuing development and maintenance of the Project Management Database.
• May participate in an assigned Emergency Response Organization position (may be part of an on-call duty team)

Knowledge / Abilities
• Knowledge of DCPP financial processes management programs
• Knowledge of DCPP plant health and project approval process
• Knowledge of PG&E budgeting and financial process
• Business computer skills such as Microsoft Office Suite Programs (emphasis on Excel, Word, and MS Project), SAP Financials, Business Warehouse, Project System, and Work Management modules
• Strong analytical skills
• Strong project management skills
• Strong financial understanding
• Strong quantitative skills with proficiency in data analysis (SAP/MS Access, MS Excel, MS Project, MS PowerPoint)
• Effective written & verbal communication skills and strong analytical and problem solving skills
• Understanding of integrated cost and schedule management
• Ability to interface with and across supporting organizations and conduct formal presentations to officers
• Strong financial management skills
• Strong strategic and business acumen skills

Qualifications - Minimum
3 years’ experience in finance, scheduling, project management, engineering and/or construction if PG&E or 4 years’ experience from another company.

(NUC) SENIOR FINANCIAL ANALYST (50229563)

Summary
This position is the fully qualified, career-oriented, Senior Financial Analyst position that requires mastery of the journey level Financial Analyst job duties.

• An employee who performs the duties of a Financial Analyst and may be required to perform such additional duties as supporting developing training programs, performing training, directing, reviewing, and/or approving the work, of a journey level Financial Analyst, and reviewing and assisting supervisors in coordinating and scheduling work assignments. It is recognized that such duties may also be performed by non-unit supervisors.

Qualifications - Minimum
8 years’ experience as a Financial Analyst or equivalent
(NUC) PROcedure WRITER - ENG/OPS (50312855)

**Summary**
This position is a journey level Procedure Writer – Eng/Ops position responsible for engineering and operations procedure writing work at Diablo Canyon Power Plant (DCPP)

**Job Duties**
- Write, revise, and review engineering and/or operations procedures per administrative requirements.
- Gather research information through interviews, field walkdowns, and review of the design bases, licensing bases, and operating experience.
- Determine effective implementation methods and strategies based on benefits, risks, and cost.
- Evaluate and determine applicability of all input to ensure compliance with requirements.
- Maintain files and records of the research and final documentation, including any technical basis and calculations.
- Generate and revise procedure basis documents and calculations.
- Provide complete history documentation for each procedure change.
- Screen procedure change requests for suitability and clarity and provide feedback as necessary.
- Sponsor changes to procedures.
- Sponsor other discipline procedure changes if technically knowledgeable of the changes.
- Facilitate procedure changes and assist plant personnel in the use and interpretation of procedures.
- Provide technical assistance to plant personnel in areas of expertise.
- Perform independent technical reviews of procedures if qualified and as directed by management.
- Participate in project and/or schedule development to coordinate and integrate procedure support with activities of other site organizations.
- Participate in industry groups as approved by management.
- May participate in an assigned Emergency Response Organization position (may be part of an on-call duty team)

**Knowledge / Abilities**
- Subject matter expert level knowledge and experience in the area of specialty (e.g., operations, engineering).
- Ability to obtain and maintain a procedure sponsor qualification in a reasonable amount of time.
- Ability to obtain and maintain a 10CFR 50.59/72.48 screen qualification in a reasonable amount of time.
- Basic computer literacy and the ability to become proficient in procedure related software and applications in a reasonable amount of time.
- Participation in activities to improve job-specific skills.
- Good oral and written communication skills.

**Qualifications - Minimum**
- ANSI/ANS 3.1 qualification for the specific position, a Bachelor's Degree in engineering or the physical sciences as appropriate and three years of professional level experience in the field of specialty, or eight years of power plant experience in the field of specialty.
- A Senior Operator/Reactor Operator license or certification may be required.
(NUC) SENIOR PROCEDURE WRITER - ENG/OPS (50312856)

Summary
This position is the fully qualified, career-oriented, Senior Procedure Writer - Eng/Ops position that requires mastery of the journey level Procedure Writer - Eng/Ops job duties.

Job Duties
An employee who performs the duties of a Procedure Writer - Eng/Ops, and may be required to perform such additional duties as supporting developing training programs, performing training, directing, reviewing, and/or approving the work of a journey level Procedure Writer – Eng/Ops and assisting supervisors in coordinating and scheduling work assignments. It is recognized that such duties may also be performed by non-unit supervisors.

Qualifications - Minimum
- 8 years' experience as a Procedure Writer - Eng/Ops or equivalent.
- Qualified to perform 10CFR 50.59/72.48 screens and independent technical reviews.

(NUC) ASSOCIATE PROCUREMENT SPECIALIST (50253125)

Summary
This associate level Procurement Specialist position is the first in a progression and is responsible for procurement work at Diablo Canyon Power Plant (DCPP).

Job Duties
- Sourcing
  - Identify and select potential suppliers using market data, qualified suppliers list, and qualitative and quantitative analysis, plant requirements and potential diverse suppliers.
  - Seek out and develop Women, Minority, and Disabled Veteran Business Enterprises (WMDVBEs) to meet or exceed supplier diversity goals.
  - Develop requests for information and requests for proposals.
  - Analyze supplier proposals and identify potential cost savings, spend reduction, supplier consolidation and standardization opportunities.
  - Prepare bid analysis criteria and bid evaluations utilizing standalone materials and Company online resources, e.g. Power Advocate.

- Procurement
  - Purchase goods (materials) and services in accordance with Company procedures and policies.
  - Process documents in SAP, e.g. purchase requisitions, purchase orders, purchase order changes, and outline agreements.
  - Administer open purchase orders including monitoring of delivery dates and coordination with Line of Business (LOB) to include Maintenance, Engineering, Operations, and Technical Coordinators on technical issues.
  - Coordination of material delivery to include the expediting of the materials from the supplier, logistics management, delivery requirement validation with the requesting organization, and communication with LOB.
  - Manage blocked invoices in accordance with the terms and conditions of the contract and/or purchase order, coordinate with suppliers and accounts payable as needed.
  - May participate in an assigned Emergency Response Organization position (may be part of an on-call duty team)
Knowledge / Abilities
- Ability to work with both internal and external customers/clients.
- Strong communications and analytical skills.
- Business computer skills such as Microsoft Office Suite Programs (emphasis on Excel, Word, and MS Project), SAP Financials and Work Management modules.

Qualifications - Minimum
- 1 year experience in supply chain if PG&E or 2 years’ experience in the same field from another company.
  Or
- A 2-year AA Degree in Business or closely related discipline from an accredited curriculum in the US or the equivalent from outside the US.
  Or
- Possess one of the following Professional Industry Certifications:
  o ISM Certified Professional in Supply Management (CPSM)
  o ISM Certified Purchasing Manager (CPM)
  o APICS Certified in Production and Inventory Management (CPIM)
  o APICS Certified Supply Chain Professional (CSCP)
  o NCMA Certified Professional Contracts Manager (CPCM)

(NUC) Journey Procurement Specialist (50253126)

Summary
This position is a journey level Procurement Specialist position responsible for procurement work at Diablo Canyon Power Plant (DCPP).

Job Duties Is able to perform the job duties of an Associate Procurement Specialist. Additional job duties include, but not limited to:

- **Sourcing**
  o Contract management
  o Supplier performance management, compliance management, and management of the procure to pay cycle.
  o Perform spend analysis, needs assessment, benchmarking and business case for sourced materials.
  o Conduct contract negotiations.
  o Use independent judgment in selecting and applying procurement methods and techniques to determine cost effective and practical solutions.
  o Review procurement documents for compliance with state and federal laws, e.g. Sarbanes Oxley, and good business practices.

- **Procurement**
  o Create, negotiate, and manage master agreement contracts.
  o Create and manage outline agreements in SAP.
  o Create and manage other SAP procurement master data to facilitate automatic purchase order and related business processes.

- **Supplier Management**
  o Develop and sustain mutually beneficial strategic relationships with suppliers.
  o Develop and review supplier performance scorecards with suppliers. Conduct quarterly evaluations.
  o Work with suppliers to implement continuous cost and quality improvements.
Knowledge / Abilities
- Knowledge of DCPP systems, structures, components and facilities.
- Knowledge of and experience with DCPP procurement procedures.
- Uses independent judgment in selecting and applying procurement methods and techniques to determine cost-effective and practical solutions.
- Fluent in the use of SAP Financials and Work Management modules.
- Proficient in SAP and procurement of services and materials.
- Proficient and knowledgeable of company supplier diversity program.

Qualifications - Minimum
- 3 years’ experience in supply chain if PG&E or 4 years’ experience in the same field from another company.
- A 2-year AA Degree in Business or closely related discipline from an accredited curriculum in the US or the equivalent from outside the US.
- Or
- Possess one of the following Professional Industry Certifications:
  - ISM Certified Professional in Supply Management (CPSM)
  - ISM Certified Purchasing Manager (CPM)
  - APICS Certified in Production and Inventory Management (CPIM)
  - APICS Certified Supply Chain Professional (CSCP)
  - NCMA Certified Professional Contracts Manager (CPCM)

(NUC) SENIOR PROCUREMENT SPECIALIST (50253127)

Summary
This job is the fully qualified, career-oriented, Senior Procurement Specialist position that requires mastery of the journey level Procurement Specialist job duties at Diablo Canyon Power Plant (DCPP).

Job Duties
- An employee who performs the duties of a Procurement Specialist and may be required to perform such additional duties as supporting developing training programs, performing training, directing, reviewing, and/or approving the work, of an associate or journey level Procurement Specialist, and assisting supervisors in coordinating and scheduling work assignments. It is recognized that such duties may also be performed by non-unit supervisors.
- Development of work instructions and job aids.
- Development and revision of business processes.
- Recognition of gaps and needs in current Company procurement policies and procedures, and develop appropriate corrective action to establish industry best practices to include technical review group initiation and participation.

Qualifications - Minimum
- 8 years’ experience in supply chain if PG&E or 9 years’ experience in the same field from another company.
- A 4-year BS/BA Degree in Business or closely related discipline from an accredited curriculum in the US or the equivalent from outside the US.
- Or
- Possess one of the following Professional Industry Certifications:
  - ISM Certified Professional in Supply Management (CPSM)
  - ISM Certified Purchasing Manager (CPM)
  - APICS Certified in Production and Inventory Management (CPIM)
(NUC) ASSOCIATE PROJECT MANAGER (50229569)

Summary
This associate level Project Manager position is the first in a progression responsible for project management work at Diablo Canyon Power Plant (DCPP).

Job Duties
- Develops and defines project scope and objectives.
- Obtain commitment on detailed work plans, including schedule, cost, resource, contingency and communication plans.
- Obtains management approval as needed and is responsible for project tracking and analysis of project costs, scope and schedule.
- Ensure project documentation is maintained.
- Manages dates, operations, tasks and scheduling in current software system (e.g. SAP)
- Manages the integration of vendor tasks and tracks and reviews vendor deliverables.
- Implements quality standards, reviews project deliverables and communicates variances accordingly.
- Identify and communicate lessons learned and incorporate prior lessons learned as best practices into projects.
- Adjusts project scope with project sponsor approval, and schedule as appropriate to accommodate change.
- Identifies project performance issues and addresses them in a timely manner.
- Represents and promotes the project and its contribution to company goals.
- May participate in an assigned Emergency Response Organization position (may be part of an on-call duty team).

Knowledge / Abilities
- Ability to work with both internal and external customers/clients.
- Ability to handle multiple projects simultaneously and prioritize work effectively.
- Problem resolution and decision making ability – shows initiative and good judgment in resolving issues.
- Ability to lead group meetings effectively, influence others, and build agreement.
- Strong communications and analytical skills.
- Business computer skills such as Microsoft Office Suite Programs (emphasis on Excel, Word, and MS Project) and SAP.
- Ability to forecast and manage costs and schedules based on project assignments
- Ability to make effective presentations to project stakeholders to include summary progress including challenges and risks.

Qualifications - Minimum
1 year experience in project management, project controls, engineering and/or construction if PG&E or 2 years of the same experience from another company. May be required to hold a Project Management Institute (PMI) Project Management Professional (PMP) certificate or Certified Associate in Project Management (CAPM) certificate

- APICS Certified Supply Chain Professional (CSCP)
- NCMA Certified Professional Contracts Manager (CPCM)
(NUC) JOURNEY PROJECT MANAGER (50229568)

Summary
This position is a journey level Project Manager position responsible for project management work at Diablo Canyon Power Plant (DCPP).

Job Duties Is able to perform the job duties of an Associate Project Manager. Additional job duties include:
- Establishes and leads project teams with agreed-upon roles and responsibilities.
- Provides technical and analytical guidance to project team.
- Determines that project objectives are achievable.
- Provides guidance to engineering on producing complex risk and alternative analyses, studies and conceptual designs for presentation to project sponsor.
- Negotiates third party contracts in support of other departments when appropriate.
- Arbitrates and resolves conflicts within the project.
- Establishes unit cost and monitors progress/accomplishment.
- Identifies and implements non-traditional processes to implement the project that reduce cost and/or schedule.
- Regularly interface with appropriate key contractor personnel to ensure all project quality standards are met.
- Maintain a project team through the contracting, design, procurement, fabrication, and implementation phases of a long term project using a mix of PG&E and contract personnel as appropriate to the stage of the project.
- Ensure technical aspects of the project are implemented in accordance with the project specification and contractual requirements.
- Manage the resolution of technical and licensing issues associated with the design and implementation of the project.
- Maintain a detailed and accurate project financial model to track historical financial performance and accurately predict future project financial performance.
- Maintain and provide periodic reporting of project financial data to plant management.
- Monitor ongoing project expenses and ensure that they are in accordance with the amounts authorized for the project.
- Ensure that the design aspects of the project are coordinated with plant stakeholders.
- Plan communication so that information is accurately transferred from the Project Team to those who have need of it.
- Monitor written project documentation and records.
- Review and approve document change requests, project status reports, key decisions, key issues and resolution, and priority changes.
- Oversee use of appropriate communications media for various communications messages.
- Ensure that contractors, suppliers, and designers of final project outcomes adhere to and perform at the highest of quality standards.
- Assesses project risk and formulates mitigating contingency plans.

Knowledge / Abilities
- Knowledge with DCPP systems, structures, components and facilities.
- Uses independent judgment in selecting and applying Project Management methods and techniques to determine cost-effective and practical solutions.
- Knowledge in the use of Project Management tools and current company tools, such as SAP Financials and Work Management modules.
- Ability to interface with and across supporting organizations and conduct presentations.
Qualifications - Minimum
3 years’ experience in project management, project controls, engineering and/or construction if PG&E or 4 years of the same experience from another company. May be required to have a Project Management Institute (PMI) Project Management Professional (PMP) certificate.

(NUC) SENIOR PROJECT MANAGER (50229570)

Summary
This job is the fully qualified, career-oriented, Senior Project Manager position that requires mastery of the journey level Project Manager job duties.

Job Duties
An employee who performs the duties of a Project Manager and may be required to perform such additional duties as supporting developing training programs, performing training, directing, reviewing, and/or approving the work, of an associate or journey Project Manager, and assisting supervisors in coordinating and scheduling work assignments. It is recognized that such duties may also be performed by non-unit supervisors.

Qualifications - Minimum
8 years’ experience as a Project Manager or equivalent and Project Management Institute (PMI) Project Management Professional (PMP) certificate is required.

(NUC) SECURITY COORDINATOR (50312860)

Summary
This position is a journey level Security Coordinator position responsible for security coordination work at Diablo Canyon Power Plant (DCPP).

Job Duties
- Perform daily scheduling of security resources to support planned activities.
- Coordinate with maintenance supervisors, engineering, operations personnel, and contractor personnel to develop security work schedules.
- Ensure work activities are scheduled to support a safe working environment, for both personnel and equipment.
- Periodically attend and provide assigned security department job progress status at the daily update meetings.
- Coordinate emergent work flow among security teams.
- Ensure security support is scheduled and performed to meet commitment dates.
- Support security schedule goals by reinforcing security coordination fundamentals.
- Advise on modifications or enhancements related to coordination and scheduling of security process procedures affecting internal and/or external organizations.
- May participate in an assigned Emergency Response Organization position (may be part of an on-call duty team).

Knowledge / Abilities
- Knowledge and experience with DCPP security processes.
- Knowledge with Primavera Project Planner (P3E) scheduling software.
- Knowledge of the Service Employees International Union (SEIU) contract as it relates to scheduling issues.
- Excel application experience.
- Knowledge to the security shift rotation schedule.
Knowledge of Workforce time accounting software and fatigue management rule requirements for security personnel.

Qualifications - Minimum
3 years’ experience in security, scheduling, project management, engineering, maintenance and/or construction if PG&E or 4 years’ experience from another company.

(NUC) WORK WEEK MANAGER (50253128)

Summary
This position is a journey level Work Week Manager position responsible for outage and non-outage work week management work at Diablo Canyon Power Plant (DCPP).

Job Duties
- Ensure that procedural guidelines are followed for the development, review, and implementation of the daily on-line or outage schedule including the appropriate scope freeze deadlines and scope control in accordance with work control/outage guidelines and applicable procedures.
- Review to assure correct schedule placement of maintenance, modifications, engineering tests and walk-downs, operation's Surveillance Test Procedures (STP), clearances, and support groups (e.g., radiation protection, Quality Control) during T-0 on-line and during curtailments and outages (planned or unplanned) as assigned.
- Review scheduled work for license basis impact, to assure correct Post Maintenance Testing (PMT), Operations Verification Testing (OVT) is assigned and scheduled, to verify operational clearance and technical specification sheets are correctly prepared, and availability of resources to support the schedule. This includes working with operations, maintenance teams, system engineers, preventive maintenance (PM) and Surveillance Test Procedure (STP) program owners and others as necessary to assure the schedule is correct.
- Facilitate near term schedule development meetings to identify issues that may impact scheduled work.
- Act as the single point of contact for scheduled activities and their interfaces to the DCPP organization during the implementation week or outage implementation timeframe.
- Provide a direct interface between and assure coordination of DCPP organizations to assure timely completion of scheduled work.
- Perform evaluation of emergent work, coordinate and assure approve of all additions to the schedule in accordance with guidelines, and applicable procedures.
- Facilitate the T+1 weekly critique. Lead the discussion of identified schedule deltas, with the goal of improving the work control process.
- During all reviews, endeavor to schedule activities in a way that supports As Low As Reasonably Achievable (ALARA) radiation work practices, and supports a safe working environment for both personnel and plant equipment.
- Review, prioritize and categorize all daily/outage SAP equipment deficiency Notifications.
- Uses independent judgment in selecting and applying maintenance scheduling methods and techniques to determine cost-effective and practical solutions.
- Approve weekly on line/outage schedules and scope in accordance with applicable procedures, scheduling guidelines, and the DCPP 12 week matrix framework.
- Advise on modifications or enhancements related to coordination and scheduling of maintenance work control process, and procedures affecting internal and/or external organizations. This includes coordination with power generation in San Francisco, and DCPP 500 kV yard directly or with B-1 notifications.
- Provides an interface with management to address any specific problems which may arise in their assigned work week and may be assigned work identified as meeting the needs of an “emerging issue” owner.
• Evaluating the effect of planned maintenance on overall plant operation.
• May participate in an assigned Emergency Response Organization position (may be part of an on-call duty team).

Knowledge / Abilities
• Knowledge of the T-12 Work Control and/or outage process and procedures.
• Knowledge of DCPP scheduling processes and tools (ORAM, Remos, SAP, ESOMS, Action Tracking, PIMS).
• Knowledge of DCPP Technical Specifications
• Knowledge and experience with DCPP maintenance work control processes, guidelines, and procedures.
• Knowledge and experience with DCPP systems, structures, components and facilities, and interfaces and interactions.
• Knowledge of with Primavera Project Planner (P3E) scheduling software and all scheduling tools, including milestone structure and work monitoring.
• Knowledge of Senior Reactor Operator/Reactor Operator License requirements.

Qualifications - Minimum
3 years’ experience in operating nuclear power plant, operations, engineering, maintenance and/or construction if PG&E or 4 years of similar experience from another company. A Senior Reactor Operator / Reactor Operator license or certification may be required.

(NUC) SENIOR WORK WEEK MANAGER (50312862)

Summary
This job is the fully qualified, career-oriented, Senior Work Week Manager position that requires mastery of the journey level Work Week Manager job duties.

Job Duties
An employee who performs the duties of a Work Week Manager and may be required to perform such additional duties as supporting developing training programs, performing training, directing, reviewing and/or approving the work of a journey level Work Week Manager, and assisting supervisors in coordinating and scheduling work assignments. It is recognized that such duties may also be performed by non-unit supervisors.

Qualifications - Minimum
8 years’ experience as a Work Week Manager or equivalent. A Senior Reactor Operator/Reactor Operator license or certification may be required.

(NUC) JOURNEY SCHEDULER (50229572)

Summary
This position is a journey level scheduler position responsible for scheduling work at Diablo Canyon Power Plant (DCPP).

Job Duties

• Outage Scheduling
  o Develop discipline schedules to be integrated with the overall outage plan and schedule for forced and refueling outages.
  o Issue scope reports to operations, maintenance, and engineering for validation of work center, durations, and man-hours.
• Input man-hour changes into scheduling software. Input changes to work centers and durations into SAP.
• Ensure resource limits are accurate in scheduling tools and provide histograms to disciplines.
• Monitor and clean up debugs for given scheduling assignments.
• Adhere to Outage Scheduling guidelines.
• Understand and update desk guides to ensure processes are accurately documented.
• Execute outage reports, layouts, and histograms during outage development and execution.
• Develop outage system and High Impact Team (HIT) schedules to be integrated with the overall outage schedule.
• Work with planning, clearance coordination, maintenance, engineering, operations, and Work Window Managers to determine the best means to execute work windows and maximize resources during scheduled outages.
• Analyze schedules to identify issues and recommend enhancements to schedule implementation.
• Update Level 1, 2, and 3 schedules.
• Monitor and resolve Level 2 windows to ensure work windows complete as scheduled.
• Assist HIT in the scheduling and coordination of major plant maintenance and modification tasks.
• Determine methods for implementing various procedure improvement projects.
• Participate in the analysis and resolution of schedule problems.
• Update and ensure Forced Outage Templates are up to date.
• Perform scheduling duties during a forced outage.

• Daily On-Line Scheduling
  • Develop and maintain Maintenance Outage Window (MOW) schedules to add focus to the work week schedule.
  • Schedule maintenance, testing, and modification activities to be accomplished while plant is on-line in accordance with work control procedures and guidelines to develop weekly schedules.
  • Identify and resolve issues that adversely impact scheduled work.
  • Work with planning, clearance coordination, maintenance, engineering, radiation protection, security, emergency planning, and operations Work Week Managers to determine the best means to optimize resource utilization during each work week.
  • Assist with coordinating scheduling of emergent work and short cycle work.
  • Participate in the T+1 work week critique process. Run performance indicators and analyze work control metrics following the executed work week.
  • Execute the daily schedule update process used for the development, status updating, and distribution of the integrated on-line schedules.
  • Provide technical and analytical guidance to project team.
  • Participate in the analysis and resolution of scheduling problems.
  • Develop and maintain MOW schedules to add focus to the work week schedule.
  • Adhere to outage and on line scheduling guidelines.
  • Schedule activities to support good nuclear safety, industrial safety, and radiation worker practices.

• Project Management Support
  • Provide layouts, reports, and histograms to assist key project team stakeholders and management in updating and monitoring status of assigned projects.
  • Develop, update, and monitor project schedules to be integrated with outage and on line schedules.
  • Set up programs and reports to aid management in critical decision making efforts.
• May participate in an assigned Emergency Response Organization position (may be part of an on-call duty team)

Knowledge/Abilities
• Ability to create, update, and monitor outage, project, and online schedules.
• Ability to prioritize work to ensure milestone and due date commitments are accomplished.
• Ability to work with both internal and external customers/clients
• Ability to handle multiple projects simultaneously and prioritize work effectively
• Problem resolution and decision making ability – shows initiative and good judgment in resolving issues
• Ability to schedule and lead group meetings, influence others, and build agreement
• Uses independent judgment in selection and applying scheduling methods and techniques to determine cost effective and practical solutions
• Develop reports, Gant charts, PERT diagrams, and histograms to support customer needs
• Assists in the resolution of technical and work process issues.
• Strong communication and analytical skills
• Knowledge of plant system interfaces and interactions
• Knowledge and experience with DCPP procedure programs
• Fluent in the use of P3E scheduling program and current company tools such as SAP Work Management modules, and Microsoft Office Suite Programs (emphasis on Excel, Word, and MS Project.

Qualifications - Minimum
3 years’ experience in scheduling, project management, project controls, operations, maintenance, maintenance planning, engineering and/or construction if PG&E or 4 years’ experience from another company.

(NUC) SENIOR SCHEDULER (50229573)

Summary
This position is the fully qualified, career-oriented, Senior Scheduler position that requires mastery of the journey level Scheduler job duties.

Job Duties
• An employee who performs the duties of a Scheduler and may be required to perform such additional duties as supporting developing training programs, performing training, directing, reviewing and/or approving the work of a journey level Scheduler, and assisting supervisors in coordinating and scheduling work assignments. It is recognized that such duties may also be performed by non-unit supervisors.

• Outage Scheduling
  o Work in a multiple project environment.
  o Assigned to lead update functions during refueling outage.
  o Provide critical path analysis and clarification.
  o Update and monitor Safety Schedule and performs Safety Analysis for outage schedules.
  o Administers database access and control.

Knowledge/Abilities
• Superior scheduling knowledge and experience, specifically with Primavera Project Manager, CPM Scheduling, and project management.
Qualifications - Minimum
8 years’ experience in scheduling, project management, project controls, operations, maintenance, maintenance planning, engineering and/or construction.

(NUC) SENIOR BUSINESS PLANNER (50229562)

Summary
This position is a fully qualified, career-oriented, Senior Business Planner position responsible for business planning work at Diablo Canyon Power Plant (DCPP).

Job Duties
- Evaluate, select and apply standard SAP Data and use accounting processes and procedures to perform tasks and use standardized criteria to monitor and control project costs.
- Develop initial job estimates and proposals to obtain funding for projects and programs.
- Initiate and document budget requests and refunds within the overall DCPP Budget process.
- Work within multi-disciplined teams to provide scope development and direction for preparation of presentation documentation and development of job estimate for project approval and funding.
- Track project budgets within DCPP overall budget, to provide monthly reporting and project forecasting for Project Manager, Project Sponsor and corporate reporting. Proactively monitor costs and coordinate the corrections of cost accounting errors.
- Update plant systems such as the Plant Health Issue Plan (PHIP) data base, project numbers, project orders and project lead orders in project management reports to coordinate financial data.
- Update guidelines, templates and instructions or overall process changes or improvements.
- Implement advanced techniques in the modification or extension of existing systems to enhance and develop new methods to obtain or utilize data to assist in the overall process for cost data evaluation or budget development.
- Work on major projects or multiple projects of moderate scope with complex features.
- Develop final job estimates, business cases, and Economic Analysis Software Package (EASOP) analysis for Major projects.
- Coordinate Project Job Costing with overall DCPP Budget planning process to ensure project inclusion in current and future year budgets and forecasting.
- Coordinate with Project Managers with review of Monthly financial documentation and plan and coordination of project job estimates and budget submittals.
- Review complete project documents for conformity and quality assurance.
- May be required to perform such additional duties as supporting developing training programs, performing training, directing, reviewing, and/or approving the work of a journey level Business Planner, and reviewing and assisting supervisors in coordinating and scheduling work assignments. It is recognized that such duties may also be performed by non-unit supervisors.
- May participate in an assigned Emergency Response Organization position (may be part of an on-call duty team)

Knowledge / Abilities
- Experience with economic analysis, financial accounting software (specifically SAP Financial and BW Business Warehouse), and PG&E’s EASOP software.
Experience with preparation of spreadsheets, documentation and presentation for analysis, control and interpretation of SAP output to provide solutions for monitoring and controlling costs.


Knowledge of Accounting Principles and Practices, familiar with SAP and Business Warehouse.

Good computer skills such as Microsoft Office Suite Programs (emphasis on Excel, Word, Power Point, and MS Project),

Good Project Management Skills

Effective oral and written communication skills.

Qualifications - Minimum

8 years’ experience in project cost development, project budgeting, project management, engineering and/or construction if PG&E 9 years if outside hire. A bachelor's degree in finance, economics, or related technical field from an accredited college or its equivalent in education and experience.
# DISTRIBUTION OUTAGE COORDINATORS

<table>
<thead>
<tr>
<th>Summary</th>
<th>Primary point of contact to assist customers with understanding the impact of a planned distribution electrical outage. Acts as a liaison between company and customers. Assigned DOC acts as customer advocate and is involved in scheduling planned shutdown dates and customer conflict resolution. Exercises independent judgment to ensure compliance with Utility Standard S-1418 (Notice to Customers, Planned Electric Service Interruption) and associated processes, and administers Quality Assurance Program QAS9 as mandated by the CPUC. This position works with internal stakeholders (e.g., Control Center Operators, W&amp;R Coordinators, M&amp;C, Mapping, Media Relations, Governmental Affairs, Service Planning, Claims and Services &amp; Sales personnel.) This position includes office work and appropriate site visits.</th>
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</table>
| Job Functions | **SAFETY**  
Safety is demonstrated and considered in completing all job assignments, as dictated in USP 22 and associated guidelines. Communicates potential safety issues to customers associated with planned outages.  

**CUSTOMER CONTACT**  
Responsible for all aspects of planned electrical distribution outage communication with customers in accordance with S-1418. Assists customers with understanding the reasons for planned outages, and provides timely responses to customer inquiries.  

Partners with Services and Sales for communication with sensitive business customers, and involves Media Relations as needed on planned distribution outages with potential public interest.  

Working with internal PG&E clients, is involved in negotiation of planned shutdown dates, balancing customer needs with M&C’s overall operational plan. Gains trust of outside parties to achieve a positive experience relating to planned outage. Makes decisions and applies judgment based on guidelines, understanding that final authority for scheduling is at Superintendent level or above.  

Exercises special care with key customer groups (e.g., commercial, industrial, schools, health and assisted living facilities). Facilitates resolution of customer concerns. Participates in dispute resolution on claims investigations and escalated legal matters.  

**PLANNING**  
Participates in planning outage impact discussions on larger projects to address potential customer satisfaction risks. Reviews customer list that is generated for planned shutdown to assist in determining accuracy of affected customers within planned outage area. May also support review of clearance points. Notifies mapping for corrections if errors are identified. Provides appropriate safety and other customer information to construction personnel.  

**COMPLIANCE MANAGEMENT**  
Promotes adherence to S-1418 by the energy delivery organization.  

Administers Quality Assurance Service Guarantee 9 (QAS9) of the Quality
Assurance program as mandated by the CPUC and approves all QAS9 program payouts based on QAS9 requirements. Adheres to record retention requirements as outlined in S-1418.

**REPORTING AND ANALYSIS**  
Review planned outage performance metrics. Analyzes data and reports performance to local matrix organizations. Provide local management with guidance to improve results.

**PROCESS IMPROVEMENT**  
Develops and implements training to M&C personnel on tools associated with outage communication (ex: Application Planned Outage Planner). Develops and conducts training on S-1418 and associated outage-related metrics.

Participates in local cross-collaboration teams to improve processes and improve overall results in the areas of outage planning and communication. Develops and conducts training on new tools, procedures and processes designed to improve planned outage performance. Takes ownership in customer advocate role in support of all planned electric distribution outage customer communications. Continually seeks out new and better ways of improving planned outage communication process.

Maintains data integrity within specialized applications (e.g., Planned Outage Planner-POP) to provide accurate and timely information to Contact Centers.

Work with other area Outage Coordinators to ensure consistency of process and share best practices.

**EMERGENCY RESPONSE**  
May assist in outage restoration and/or communication during Operations Emergency Center (OEC) activations. During normal business hours, the OEC support role is in an Alternate capacity.

| **Knowledge / Abilities** | Committed to providing superior customer service and commitment to excellence.  
Basic understanding of related elements of PG&E’s electrical system.  
Strong focus on safety.  
Strong verbal and written communication skills.  
Strong analytical, organizational, facilitation, conflict resolution, coordinating and problem solving skills.  
Ability to work with limited supervision to meet project commitments.  
Demonstrates informed judgment when making decisions and recommendations.  
Works effectively in cross-functional teams.  
Computer skills and Application knowledge (Outlook, Word, Excel, CC&B, DART, ILIS, OMT/OIS, BPM-PSL, ECCO Clearance Application). |
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<tr>
<td><strong>Qualifications</strong></td>
<td>A bachelor’s degree from an accredited college or its equivalent in appropriate education and experience. Such experience may include 3 or more years in PG&amp;E Technical Services, Maintenance &amp; Construction, Customer Service or other relevant work. Must have strong customer contact, communication and analytical skills and the ability to lead/influence others.</td>
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</table>
**AUTOMATION ENGINEERS**

<table>
<thead>
<tr>
<th>ASSOCIATE AUTOMATION ENGINEER (51587870)</th>
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<tbody>
<tr>
<td><strong>Summary</strong></td>
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<tr>
<td><strong>Job Duties:</strong></td>
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<td><strong>Scope</strong></td>
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<td><strong>Interaction</strong></td>
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<td><strong>Knowledge / Abilities</strong></td>
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<tr>
<td>ASSOCIATE AUTOMATION ENGINEER (51587870)</td>
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<td>------------------------------------------</td>
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<tr>
<td><strong>Job Qualifications:</strong></td>
</tr>
<tr>
<td>Schematic diagram, and network block diagram</td>
</tr>
<tr>
<td>Ability to quickly learn automation concepts and their applications</td>
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<tr>
<th>Education</th>
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<tbody>
<tr>
<td>A 4-year BS Degree in Electrical Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US.</td>
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<tr>
<th>Licenses / Certifications</th>
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<tbody>
<tr>
<td>Current and active California EIT Certificate desired.</td>
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<tr>
<th>Experience</th>
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<tbody>
<tr>
<td>1-2 years' experience in engineering desired.</td>
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<tr>
<th>JOURNEY AUTOMATION ENGINEER (51587871)</th>
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<tbody>
<tr>
<td><strong>Summary</strong></td>
</tr>
<tr>
<td>This is a journey-level automation engineer position that requires executing routine system automation functional duties with minimal assistance. This position requires a moderate level of training, direction and review of work from more senior engineers and peers. This job is responsible for providing technical system automation engineering for routine projects and maintenance/operation support including, but not limited to: issuing automation requirements, remote terminal unit (RTU) programming, and configure non-protective devices that provide SCADA functions as well as investigating automation equipment failures within the substations.</td>
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<thead>
<tr>
<th>Job Duties:</th>
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<tbody>
<tr>
<td>May perform all the functions of Associate Automation Engineer and in addition:</td>
</tr>
<tr>
<td>1. Provide guidance to peers and lower level engineers</td>
</tr>
<tr>
<td>2. Assign DNP &amp; IP addresses for various IED substation devices</td>
</tr>
<tr>
<td>3. Assists in the development of new standards and equipment selection for future substation SCADA equipment.</td>
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<tr>
<td>4. Review and approve project scope document, RTU settings and other deliverables from contractor engineers.</td>
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<tr>
<td>5. Engage and collaborate with vendors on training, product development or product troubleshooting.</td>
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<tr>
<td>6. Assist senior engineers while they study and approve new equipment and training before rollout.</td>
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<tr>
<th>Scope</th>
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<tr>
<td>Resolves problems of moderate scope and complexity. Assignments typically require standard solutions. Under general direction, independently plans work to meet assigned objectives; progress is reviewed periodically for technical accuracy and adequacy in process and upon completion.</td>
</tr>
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<tr>
<th>Interaction</th>
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<tbody>
<tr>
<td>To implement various aspects of the above job requirements, will work with internal engineering, operations, SCADA specialist, substation construction and maintenance organizations with various levels of personnel to obtain cooperation, persuade, exchange and/or provide information. May attend meetings representing the group to meet job duties. External contacts limited primarily to obtaining and providing information to vendors, manufacturers and consultants on moderately routine issues.</td>
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<tr>
<th>Knowledge / Abilities</th>
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<tbody>
<tr>
<td>Process knowledge and abilities of associate automation engineer and in additions:</td>
</tr>
<tr>
<td>Able to apply engineering principles and theory</td>
</tr>
<tr>
<td>Knowledge of substation equipment and their SCADA abilities</td>
</tr>
<tr>
<td>Knowledge of binary and hex numbers</td>
</tr>
</tbody>
</table>
Summary

This is a senior automation engineer position that requires executing routine system automation functional duties with minimal assistance. This job is responsible for providing technical system automation engineering for routine projects and maintenance/operation support including, but not limited to: issuing automation requirements, remote terminal unit (RTU) programming, and configure peripheral boards (DNP-C), regulator controllers, meters, as well as investigating automation equipment failures within the substations.

The senior-level position is required to have abilities to train and mentor junior engineers, communicate technical details to management and peers, and work effectively with other disciplines. It is also essential to remain current in industry standards and practices while implementing them within PG&E standards and systems through ongoing training, professional conferences and seminars.

The senior-level position needs to have a mastery of the various SCADA architectures used in PG&E, and helps to develop future architectures and technologies.

Job Duties:

May perform all the functions of Associate and Journey Automation Engineer, and in addition:

1. Perform automation work on large and complex projects.
2. Coach, direct, and assist technical employees and teams. May act as team leader.
3. Provide technical leadership and expertise to cross-functional teams and management.
4. Provide project scope guidance and approval in order to effectively implement the project goal.
5. Update various standards for automation equipment and architectures.
6. Performs analysis and makes recommendations to address local and system-wide automation problems and improvements.
7. Guide and mentor less-experienced automation engineers.
8. Review and comment on new design standards and automation architectures.
9. Identify and resolve standards deficiencies and recommend standards.

Job Qualifications:

| Education | A 4-year BS Degree in Electrical Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US. |
| Licenses / Certifications | Current and active California PE license desired |
| Experience | Mastery of the associate automation engineer job duties and demonstrated knowledge and ability to perform the basic duties of the Journey Automation Engineer. Meets specific technical requirements gained through a minimum of three years of cumulative experience in the field of system automation. |

Senior Automation Engineer (51587872)

- Knowledge of DNP and PGE protocols
- Knowledge of network IP architecture (Routers, Switches, Terminal Servers)
- Knowledge of protective relay hardware and software in order to interface with automation schemes.

Education

A 4-year BS Degree in Electrical Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US.

Licenses / Certifications

Current and active California PE license desired

Experience

Mastery of the associate automation engineer job duties and demonstrated knowledge and ability to perform the basic duties of the Journey Automation Engineer. Meets specific technical requirements gained through a minimum of three years of cumulative experience in the field of system automation.

Knowledge of DNP and PGE protocols
Knowledge of network IP architecture (Routers, Switches, Terminal Servers)
Knowledge of protective relay hardware and software in order to interface with automation schemes.
<table>
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<tr>
<th><strong>Senior Automation Engineer (51587872)</strong></th>
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<tr>
<td><strong>upgrades.</strong></td>
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<tr>
<td><strong>Scope</strong></td>
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<td><strong>Interaction</strong></td>
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</table>
| **Knowledge / Abilities** | • Strong automation engineering background knowledge required.  
• Knowledge of communications technologies for SCADA communication is required. These include hardware architectures, addressing schemes, protocols, and security considerations.  
• Ability to program and review RTU configuration.  
• Knowledge of protective relay hardware and software in order to interface with automation schemes.  
• Knowledge of automation equipment and testing.  
• Ability to analyze SCADA problems and determine solutions.  
• Able to work with minimal supervision and guidance to meet project commitments, both independently and/or as a member of a team.  
• Able to understand and implement the technical requirements of interfacing engineering disciplines.  
• Demonstrates informed judgment when making decisions and recommendations.  
• Uses independent judgment in applying engineering principles and techniques to determine cost effective and practical solutions.  
• Ability to manage and complete multiple complex projects concurrently.  
• Interprets applicable codes, industry standards and regulations and educates others.  
• Can provide thorough analysis of issues and justification of recommendations.  
• Takes ownership of problems and their solutions. |
| **Job Qualifications:** |
| **Education** | A 4-year BS Degree in Electrical Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US. |
| **Licenses / Certifications** | Current and active California PE license desired |
| **Experience** | Mastery of the associate and journey automation engineer job duties and demonstrated knowledge and ability to perform the basic duties of the Senior Automation Engineer. Meets specific technical requirements gained through a minimum of eight years of cumulative experience in the field of system automation. |
### Summary

This is a senior consulting/advising automation engineer position that requires mastery of the Senior Engineer job duties and the technical leadership necessary for developing standards as well as new designs. This job is responsible for providing technical system automation engineering for routine projects and maintenance/operation support including, but not limited to: issuing automation requirements, remote terminal unit (RTU) programming, and configure peripheral boards (DNP-C), regulator controllers, meters, as well as investigating automation system failures within the substations.

The senior consulting/advising position is required to have abilities to train and mentor junior engineers, develop new automation standards and advise management on evolving automation architectures as well as emerging technologies and industry practices.

The senior consulting/advising level position needs to have a mastery of the various SCADA architectures used in PG&E, and develops future architectures and technologies.

### Job Duties:

May perform all the functions of Associate, Journey and Senior Automation Engineer, and in addition:

1. Manage large highly complex projects and perform engineering analyses.
2. Develop innovative solutions to tackle challenging technical issues.
3. When necessary, act as a lead in root cause analyses and make recommendations to mitigate local and system-wide implications.
4. Represent PG&E at external industry associations, committees, trade organizations, and other inter-utility groups as needed.
5. Develop technical standards, work procedures and engender sound standard practices.
6. Provide technical opinions, expertise and advice to management.
7. Provide technical development to less-experienced automation engineers.
8. Evaluate emerging technologies to enhance current system to drive system reliability, compliance, productivity, efficiency, and cost savings.
9. Provide technical expertise and leadership to Support Electric Operations.

### Scope

Resolves problems of highly complex scope and identifies creative or non-standard solutions. Independently plans work to meet assigned general objectives. Provides technical input on strategies and initiatives undertaken by management. Serves as the subject matter expert on SCADA/Automation architectures standards and practices.

### Interaction

Internal contacts include project team members and managers across departments; serving as subject matter expert on Automation. External contacts include technical interaction with vendors, manufacturers, other utilities as well as consultants on non-routine issues. May requires to participate in professional organizations to keep abreast of new industry trends, technologies, developments and procedures and to offer technical opinions. May represent the company on committees.
**Knowledge / Abilities**

- Expert level automation engineering knowledge required.
- Expert level knowledge of SCADA architectures and communication technologies pertinent to Automation is required.
- Ability to program, review, troubleshoot and analyze RTU configurations.
- Knowledge of protective relay hardware and software in order to interface with automation/SCADA systems.
- Expert level knowledge of automation equipment and testing.
- Ability to analyze complex SCADA/automation problems and determine solutions.
- Able to work without supervision and guidance to meet complex project commitments.
- Demonstrates expert level judgment when making decisions and recommendations.
- Ability to manage and complete multiple complex projects concurrently.
- Interprets applicable codes, industry standards and regulations and educates others.
- Ability to provide comprehensive analyses of complex problems and sound technical justification of recommendations.

**Job Qualifications:**

<table>
<thead>
<tr>
<th>Education</th>
<th>A 4-year BS Degree in Electrical Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US. Master degree desired.</th>
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<tbody>
<tr>
<td>Licenses /</td>
<td>Current and active California PE license is desired. For individual who attains California PE license, the classification will be Senior Consulting Engineer whereas Senior Advisor Engineer classification does not.</td>
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<tr>
<td>Certifications</td>
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<tr>
<td>Experience</td>
<td>Meets specific technical requirements gained through a minimum of thirteen years of cumulative experience in the field of SCADA/Automation.</td>
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</table>

**Summary**

This is a Principal level Automation Engineer position. The position will closely interact with cross-functional teams to support Automation assets planning, budget management, and SCADA program execution related activities. In addition, provide support to ensure successful implementation of the NERC Compliance items that are related to Automation/SCADA, participate in product evaluation and leverage enabling technologies to enhance the Automation/SCADA program. This position often assists in development of technical / governing policies, standards and procedures, provides high-level advice & expertise to upper management, and applies broad & extensive business understanding of technical issues and impacts the strategic direction and policies of the company.

**Job Duties**

May perform all the functions of Senior Advising / Consulting Automation Engineer, and in addition:

**Leadership**

1. Participate in the Automation / SCADA Leadership Team.
2. Identify and implement opportunities to improve company performance (safety, financial, quality, performance).
3. Recommend and assist in implementation of strategic direction & policies of the company by applying broad & extensive business understanding of
technical issues.

4. Provide high-level advice & expertise to upper management.
5. Provide technical leadership, direction, and coaching to less experience engineer.

SCADA Program Execution

6. As directed manage and coordinate various program activities with other stake holders from start to finish including job prioritization, initiation, high level scoping, authorization, contracting strategy, proposal review, work flow, resources and clearance coordination, reporting, etc.
7. As directed manage performance metrics to improve efficiency; develop and provide support to unit cost tracking, SCADA Penetration tracking, data requests, etc.

Budget Management & Asset Planning

8. Budget Management and Asset Planning of the Transmission / Distribution Automation capital program: provide support to manage and control allocated annual budget, TO rate case / GRC preparation, data requests, day-to-day budget and planning activities, analyze SAP reports, cycle forecasts, Portfolio and Long-term planning validation.
9. As directed manage and coordinate the T&D department 5-years plan, prioritize and rank against other planned capital projects with other asset planners.
11. Prepare monthly reports, develop business case / justification for presentation to upper management, prepare and route project approval documents, etc.

Program Management for Automation

12. Program Management (i.e. MPAC): lead the core design and program Teams and facilitate Team meetings, quality assurance, contract review / negotiation, issue / risk assessment and timely resolution, continue process improvement, performance metrics management, communication to stakeholders, manage end-to-end process from planning until project completion, etc.
13. Develop and manage standards and specifications (i.e. MPAC), and Long-term program deployment roadmap.
14. Develop business case / justification for presentation to upper management, prepare and route project approval documents, etc.

Regulatory compliance for automation

15. Review, evaluate and translate legal, regulatory and industry standards into control objectives that are focused on maintaining compliance (i.e. NERC CIP).
16. Ensure System Automation has processes to ensure and demonstrate regulatory compliance. Develop and update procedures and guidelines in the Guidance Document Library (GDL) and professional format to ensure compliance.
17. Ensure System Automation maintains and meets ongoing future version of applicable regulatory requirements (i.e. NERC CIP) by updating and revising applicable compliance documents including maintaining Asset lists for Critical Assets (i.e. NERC CIP).
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<td><strong>18.</strong></td>
<td>Complete required reviews of various user and administrative accounts according to mandated review periods.</td>
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<td><strong>19.</strong></td>
<td>Process and manage tasks associated with WECC CIP Mitigation plans to scheduled completion.</td>
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<tr>
<td><strong>20.</strong></td>
<td>Manage technical feasibility exceptions associated with System Protection and Automation assets within substations and control centers.</td>
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<td><strong>21.</strong></td>
<td>Process CIP Gap analysis items in PG&amp;E compliance tracking application and programs system to verify compliance.</td>
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<td><strong>22.</strong></td>
<td>Provide NERC CIP awareness training to PG&amp;E Substation stakeholders in Electric Transmission organization.</td>
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<tr>
<td><strong>23.</strong></td>
<td>Manage security controls and change management actions within substation critical assets to maintain evidence of regulatory compliance (i.e. NERC CIP). Maintain and renew Firewall exceptions required for remote access to Automation assets at Critical Asset Substations.</td>
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<tr>
<td><strong>24.</strong></td>
<td>Participates in regulatory team activities as subject matter expert (SME) for substation automation assets.</td>
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**Product Evaluation**

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<td><strong>25.</strong></td>
<td>Evaluate emerging technologies to enhance current system to drive system reliability, compliance, productivity, efficiency, and cost savings.</td>
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</table>

**Scope**

- Principal Automation Engineer participates in the Automation / SCADA Leadership Team, and often provides support to strategies and initiatives set forth by management.
- Resolves problems of complex scope and develops innovative solutions to solve challenging technical issues.
- Serves as the subject matter expert (SME) on the team and a key technical resource within System Automation, such as supporting Regulatory entity Compliance items that are related to Automation/SCADA, product / software evaluation, development of technical / governing policies, standards and procedures, Program Management, etc.
- Regularly expected to apply creativity or new approaches to assignments, including managing SCADA program execution, Automation asset planning, budget management, performance metrics management, and process improvement.

**Interaction**

- Internal contacts include project team members, managers and directors across various departments. Serves as the subject matter expert (SME) on the team, and often acts on behalf of the Automation department.
- External contacts are not limited to obtaining, exchanging and providing information to vendors, manufacturers, regulatory agencies, other utilities, and consultants on all routine / non-routine issues concerning: Automation trends, contract proposals, projects, regulatory compliance, rate cases, etc.
- May participate in professional affiliations (i.e. IEEE, WECC WG) to keep abreast of new industry trends, developments and procedures. May represent the company on committees. Often a technical coach for others.

**Knowledge / Abilities**

- Demonstrates expert knowledge and abilities in System Automation arena.
- Applies broad and extensive business understanding of technical issues and impacts the strategic direction and policies of the company.
- Conceives and investigates areas in which engineering precedents are not tested.
- Recommends and assists in implementation of strategic direction.
- Assists in development of technical / governing policies, standards and procedures.
- Leverages expertise and industry involvement to achieve positive results.
- As directed manages and control assigned budgets.
- Provides high-level advice and expertise to upper management.
- Demonstrates well-developed leadership skills. Develops engineers and others.
- Develops business case / justification for presentation to upper management.
- Identifies and implements opportunities to improve company performance (safety, finances, quality, and operations).

**Job Qualifications:**

**Education**
- A 4-year BS Degree in Electrical Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US.
- Master's Degree in Electrical Engineering or advanced degree, such as MBA, in project or operation management desired.

**Licenses / Certifications**
- California PE license desired.

**Experience**
- Fifteen years of cumulative experience in engineering with considerable experience on Substation Automation/SCADA, NERC compliance, asset planning, program execution, or budget management.

### POWER QUALITY ENGINEERS

#### ASSOCIATE POWER QUALITY ENGINEER (51587875)

**Summary**
This is an associate-level Power Quality Engineer job that works as part of a team which provides services to identify and resolve power quality issues or problems for the safe and effective utilization of electric power. This position requires a high level of training, and will work under the general technical direction and review of more senior engineers, peers, and supervisor.

**Job Duties**

1. Provide assistance to internal and external customers to resolve power quality related problems, not including Estimator/ADE or Distribution Engineer job duties.
2. Provide monitoring support and resources so Divisions can effectively deal with power quality issues.
3. Help support the company’s overall power quality programs and guidelines.
4. Investigate customer issue correlations using PG&E Reporting and Engineering Tools, not including Estimator/ADE or Distribution Engineer job duties.
5. Provide power quality education and awareness to internal and external clients.
6. Apply various standards and Rule 2 to resolve issues.
7.Resolve inquiries from Power Quality Web mail, not including Estimator/ADE or Distribution Engineer job duties.
8. Receives voltage problem notifications from the SmartMeter system, assigns them to the appropriate ADE or Distribution Engineer for investigation and resolution, tracks status and ensures closure.
9. Provide guidance, support and oversight regarding the voltage complaint procedure Company wide.

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<tr>
<th>Scope</th>
<th>Resolves problems of a limited scope. Assignments typically require standard solutions and are regularly reviewed by more senior engineers and the supervisor.</th>
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<tbody>
<tr>
<td>Interaction</td>
<td>Will work with internal engineering, operations, substation, construction and maintenance organizations to implement various aspects of the above job requirements. External contacts are frequent as exchange of information is required to find resolution.</td>
</tr>
</tbody>
</table>

| Knowledge / Abilities | • Familiar with various standards and Rule 2. • Familiar with the Voltage Complaint Procedure • Able to apply basic engineering principles and theory • Basic knowledge of electrical distribution system and equipment. • Basic familiarity with the principles of harmonics and their effects. • Basic understanding of line and substation equipment and their SCADA abilities • Effectively communicates both written and orally • Approaches and plans work in an organized manner to meet project commitments • Able to read and understand Single line, SCADA and Schematic diagrams • Ability to quickly learn power quality mitigation concepts and their applications |

| Job Qualifications: | |
| Education | A 4-year BS Degree in Electrical Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US |
| Licenses / Certifications | Current and active California EIT Certificate desired. |
| Experience | 1-2 years’ experience in engineering desired. |

JOURNEY POWER QUALITY ENGINEER (51588176)

| Summary | This is a journey-level Power Quality Engineer job that is part of a team which provides services to identify and resolve power quality issues or problems for the safe and effective utilization of electric power. This position requires a moderate level of training, direction and review of work from more senior engineers, peers, and supervisor. |

| Job Duties | May perform all the functions of an Associate Power Quality Engineer and in addition: 1. Provide core technical expertise to support the company’s overall power quality programs and guidelines 2. Publish and maintain power quality information on Power Quality Website 3. Provide consultation and support to Estimators, ADE’s, DE’s and others regarding the Voltage Complaint Procedure |
4. Engage and collaborate with vendors on training, product development, product testing
5. Evaluate and test new tools and training before rollout/purchase
6. Evaluate technologies affecting power quality
7. Develop power quality training material and provide power quality training classes and workshops.
8. Provide system/equipment/setting options to resolve power quality issues
9. Provide power quality consulting services for a fee
10. Independently research and work with manufacturers to address issues with customer equipment
11. Provide guidance to peers and less experienced Power Quality Engineers

**Scope**

Resolves problems of varying scope. Assignments typically require standard solutions. Upon general direction, independently plans work to meet assigned objectives and resolve power quality-related issues. Assignments are regularly reviewed.

**Interaction**

Will work with internal engineering, operations, substation, construction and maintenance organizations to implement various aspects of the above job requirements. External contacts are frequent as exchange of information is required to find resolution.

**Knowledge / Abilities**

Possess knowledge and abilities of an Associate Electrical Engineer (Power Quality) and in addition:

- Thorough knowledge of electrical distribution system and equipment.
- Basic understanding of the principles of Induction Coordination.
- Understanding the principles of harmonics and their effects.
- Understanding of line and substation equipment and their SCADA abilities.
- Knowledge of basic protective devices and schemes.
- Knowledge of customer equipment power quality requirements.
- Knowledge of wiring and grounding issues.
- Ability to manage and complete numerous non-conflicting projects concurrently.
- Can provide thorough analysis of issues and justification of recommendations.

**Job Qualifications:**

**Education**

A 4-year BS Degree in Electrical Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US.

**Licenses / Certifications**

Current and active California PE License desired.

**Experience**

Mastery of the associate power quality engineer job duties and demonstrated knowledge and ability to perform the basic duties of the journey Power Quality Engineer. Meets specific technical requirements gained through a minimum of three years of cumulative experience in the field of Power Quality and/or utility electrical engineering.
**SENIOR POWER QUALITY ENGINEER (51588177)**

<table>
<thead>
<tr>
<th>Summary</th>
<th>This is a senior-level Power Quality Engineer job that requires proficiency of the journey-level Power Quality Engineer job duties and is responsible for more complex power quality duties. This job is responsible for providing services to identify power quality issues or problems for the safe and effective utilization of electric power including: industry standards and guidelines support (IEEE), inductive coordination, unintended electrical contact, and harmonics.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Duties</td>
<td>May perform all the functions of the Journey Power Quality Engineer, and in addition: 1. Maintain networks with industry peers including research &amp; development organizations, testing &amp; engineering organizations, and educational organizations. 2. Provide power quality support on complex telephone interference issues. 3. Provide power quality support on stray voltage investigations, not including Estimator/ADE or Distribution Engineer job duties. 4. Provide power quality support on distributed generation issues. 5. Provide power quality support on standards and guidelines. 6. Guide and mentor less experienced Power Quality engineers.</td>
</tr>
<tr>
<td>Scope</td>
<td>Resolves problems of complex scope. Upon general direction, independently plans work to meet assigned objectives and resolve power quality-related issues; solution may provide an opportunity for creative/non-standard resolutions. Assignments are regularly reviewed.</td>
</tr>
<tr>
<td>Interaction</td>
<td>Will work with internal engineering, operations, substation, construction and maintenance organizations to implement various aspects of the above job requirements. External contacts are frequent as exchange of information is required to find resolution. Lead and/or attend meetings representing the group to perform job duties.</td>
</tr>
<tr>
<td>Knowledge / Abilities</td>
<td>Possess knowledge and abilities of a Journey Power Quality Engineer and in addition:  • Understanding of the principles of Induction Coordination.  • Thorough understanding of the principles of harmonics and its effects and mitigation techniques.  • Understanding of the principles and differences of stray voltage and unintended electrical contact.  • Understanding of the principles of distributed generation.</td>
</tr>
<tr>
<td>Job Qualifications:</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>A 4-year BS Degree in Electrical Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US.</td>
</tr>
<tr>
<td>Licenses / Certifications</td>
<td>Current and active California PE license desired.</td>
</tr>
<tr>
<td>Experience</td>
<td>Mastery of the associate and journey power quality engineer job duties and demonstrated knowledge and ability to perform the basic duties of the Senior Power Quality Engineer. Meets specific technical requirements gained through a minimum of eight years of cumulative experience in the field of Power Quality and/or utility electrical engineering.</td>
</tr>
</tbody>
</table>
**Senior Consulting/Advising Power Quality Engineer (51588178/51592666)**

**Summary**
This is a senior-consulting level Power Quality Engineer job that requires mastery of the senior-level Power Quality Engineer job duties and is responsible for more complex power quality duties. This job requires technical leadership to develop power quality initiatives, guidance, and standards. This position may represent the PG&E power quality group for company and nationwide power quality projects. When this position is required it will be determined whether to fill at the Consulting or Advising level depending on need.

**Job Duties**
May perform all the functions of the Senior Electrical Engineer (Power Quality), and in addition:

1. Represent PG&E at external industry associations, committees, trade organizations, and other inter-utility groups as a contributing member.
2. Develop innovative solutions to tackle challenging technical issues.
3. Provide extensive leadership, coaching and development to less-experienced Power Quality Engineers.
4. Manage large highly complex projects and perform engineering analyses.
5. Serve as Power Quality subject matter expert and provide technical opinions, expertise and advice to management.
6. Develop technical standards, work procedures and engender sound standard practices.

**Scope**
Resolves problems of highly complex scope. Upon general direction, independently plans work to meet assigned objectives and resolve power quality-related issues; solution may provide an opportunity for creative/non-standard resolutions. Assignments are regularly reviewed. Serves as a Power Quality subject matter expert to develop standards, practices, and projects within PG&E and other utilities and professional organizations. May contribute to technical papers within professional industry organizations.

**Interaction**
Will work with internal engineering, operations, substation, construction and maintenance organizations to implement various aspects of the above job requirements. External contacts are frequent as exchange of information is required to find resolution. Lead and/or attend meetings representing the group to perform job duties. Participates in professional affiliations (i.e., IEEE) to keep abreast of new industry trends, developments and procedures. May represent the company on committees.

**Knowledge / Abilities**
Possess knowledge and abilities of a Senior Electrical Engineer (Power Quality) and in addition:
- Expert level Power Quality Engineering knowledge required.
- Expert level knowledge of Power Quality equipment and testing.
- Ability to analyze highly complex Power Quality problems and determine solutions.
- Program management skills for Power Quality projects.
- Demonstrates expert level judgement when making decisions and recommendations.
- Interprets applicable NEC codes, industry standards and regulations and educates others.
• Able to work without supervision and guidance to meet complex project commitments.
• Ability to manage and complete multiple complex projects concurrently.
• Ability to provide comprehensive analyses of complex problems and sound technical justification of recommendations.

**Job Qualifications:**

**Education**
A 4-year BS Degree in Electrical Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US.

**Licenses / Certifications**
Current and active California PE license required for Senior Consulting Engineer Position but not for Senior Advising Engineer position.

**Experience**
Mastery of the associate, journey and senior power quality engineer job duties and demonstrated knowledge and ability to perform the basic duties of the Senior Consulting/Advising Power Quality Engineer. Meets specific technical requirements gained through a minimum of thirteen years of cumulative experience in the field of Power Quality and/or utility electrical engineering.

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**METERING ENGINEERS**

<table>
<thead>
<tr>
<th>ASSOCIATE METERING ENGINEER (51588179)</th>
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<tbody>
<tr>
<td><strong>Summary</strong></td>
</tr>
<tr>
<td>The Associate level engineer job works under the general technical direction of more experienced engineers. This position is responsible for providing technical standards and strategy, and implementation support for the electric metering systems, endpoint meters (metrology and meter related communication) and associated equipment. The responsibility level of this position increases with experience.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Job Duties:</strong></th>
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</thead>
<tbody>
<tr>
<td>As assigned, for metering systems, endpoint meters, and associated equipment:</td>
</tr>
<tr>
<td>1. Develop and update equipment specifications, approve vendors and products</td>
</tr>
<tr>
<td>2. Develop design, engineering, maintenance and construction standards, and work procedures within the delegation of authority.</td>
</tr>
<tr>
<td>3. Perform, document and publish equipment ratings.</td>
</tr>
<tr>
<td>4. a. Provide support for training to field metering personnel.</td>
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<tr>
<td>b. Provide support and communication to field metering personnel, operations, planning, law, regulatory departments, and customer service departments.</td>
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<tr>
<td>5. Assist other engineers, team members, and supervision by developing, compiling, and providing technical data.</td>
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<tr>
<td>6. Update and manage databases as required.</td>
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<tr>
<td>7. Prepare or support incident investigations, equipment failure analyses and reliability studies.</td>
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<tr>
<td>8. Support emergency material strategy and implementation</td>
</tr>
<tr>
<td>9. Perform meter plant specific job duties which may include QA review, financial reports, and process improvements.</td>
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<table>
<thead>
<tr>
<th><strong>Scope</strong></th>
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</thead>
<tbody>
<tr>
<td>Resolves problems of limited scope and complexity. Assignments are regularly reviewed. As experience increases, greater independence of judgment is expected with respect to standard solution problems.</td>
</tr>
<tr>
<td>Interaction</td>
</tr>
<tr>
<td>-------------</td>
</tr>
<tr>
<td>Work typically requires direction from more senior engineers and the supervisor. Works primarily with internal personnel. External contact is limited to those assigned by supervisor. Attends selected trade and association meetings.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Knowledge / Abilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Able to apply basic engineering principles and theory. Assess and recommend solutions for routine projects. Effective written and oral communications. Prioritize, plan and perform assigned work in an organized manner. Demonstrates good judgment. Shows initiative and is proactive.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Job Qualifications:</th>
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</table>

<table>
<thead>
<tr>
<th>Education</th>
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</thead>
<tbody>
<tr>
<td>A 4-year BS Degree in Electrical Engineering or other related Engineering degree as appropriate from an accredited curriculum in the US or the equivalent from outside the US.</td>
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<table>
<thead>
<tr>
<th>Licenses / Certifications</th>
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<tr>
<th>Experience</th>
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</thead>
<tbody>
<tr>
<td>One year of experience in engineering, planning and/or operations.</td>
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</tbody>
</table>

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**Summary**

The Journey level engineer job requires mastery of an Associate Engineer skills and duties. This position is responsible for providing technical standards, strategy and implementation support for the electric metering systems, endpoint meters (metrology and meter related communication) and associated equipment. The responsibility of this position increases with experience and demonstrated ability.

**Job Duties:**

Is able to perform the job duties of the Associate Level engineer. As assigned, additional job duties include, for metering systems, endpoint meters, and associated equipment:

1. Conduct engineering analyses, studies and review project scope for standards compliance.
2. Develop and incorporate equipment arrangement strategies into standards.
3. Provide guidance to peers and lower level engineers.
4. Interprets and applies applicable codes and regulations.
5. Approve deviations from standards and specifications.
6. For electric maintenance projects/programs (i.e. electric meter testing, inspections, replacement, and compliance), the following duties describe what the electric meter engineers perform:
   - Initiate and prepare electric metering project/program justification and budgetary cost estimates and route for approval
   - Provide engineering or subject matter expert support for existing or new projects/programs
   - Develop and maintain standards, work procedures, job aids, bulletins, etc. related to existing or new projects/programs
   - Receive project/program results and perform analysis that may lead to additional engineering recommendations and project/program justification (i.e. R-test)
7. For substation, and special metering projects, may perform the following tasks as assigned:
   a. Provide engineering review and requirements.
b. Participate as necessary in walk downs to establish scope and schedule.
c. Provide financial information and support.

**Scope**
Resolves problems of moderate scope. Assignments typically require standard solutions. Generally works independently with limited feedback from other engineers and supervisor. Demonstrates increasing technical and communication skills.

**Interaction**
Work sometimes requires direction from more senior engineers and the supervisor. Works primarily with internal personnel. Some external contact with vendors, PG&E contractors and customers. Governmental contacts only as assigned by supervisor. Attends selected trade and association meetings.

**Knowledge / Abilities**
Demonstrates knowledge and abilities required for the Associate level engineer and also:
Works with limited supervision and guidance to meet project commitments. Able to understand and implement the technical requirements of interfacing engineering disciplines. Demonstrates informed judgment when making decisions and recommendations. Uses judgment in applying engineering principles and techniques to determine cost effective and practical solutions. Ability to interpret applicable codes, industry standards and regulations. Can provide thorough analysis of issues and justification of recommendations.

**Job Qualifications:**

**Education**
A 4-year BS Degree in Electrical Engineering or other related Engineering degree as appropriate from an accredited curriculum in the US or the equivalent from outside the US.

**Licenses / Certifications**
Current and active California PE license desired.

**Experience**
Mastery of the Associate level Engineer job duties or equivalent and demonstrated knowledge and ability to perform the basic duties of the Journey level Engineer. Meets specific technical requirements gained through a minimum of three years of cumulative experience in engineering, planning and/or operations.

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**SENIOR METERING ENGINEER (51588181)**

**Summary**
The Senior level engineer job requires mastery of the Journey level engineer skills and duties. This position is responsible for providing technical standards, strategy and implementation support for the electric metering systems, endpoint meters (metrology and meter related communication) and associated equipment and handles complex problems and issues.

**Job Duties:**
Is able to perform the job duties of a Journey level engineer. As assigned, additional job duties include, for metering systems, endpoint meters, and associated equipment:
1. Support, perform or lead the development and management of Life Cycle Plans.
2. Support the development of equipment installation, maintenance, testing, replacement, and compliance programs.
3. Provide support on regulatory, governmental and other third party issues.
4. Address and manage emergency issues associated with assigned standards and equipment.
5. Support, perform or lead, as assigned, root cause analyses.
6. Address other internal and external requests that may impact metering assets.
7. Assist with or initiate the investigation and implementation of new technologies.
8. Provide guidance to peers and lower level engineers.
9. Represent PG&E at selected trade and association meetings.

**Scope**

Resolves problems of complex scope. Assignments may require complex solutions. Works independently with limited feedback from other engineers and supervisor.

**Interaction**

Work sometimes requires direction from more senior engineers and the supervisor. Works with internal and external personnel. External contacts include vendors, PG&E contractors, customers and regulatory agencies. May include other governmental contacts as assigned by supervisor.

**Knowledge / Abilities**

Demonstrate knowledge and abilities required for the Associate and Journey level Engineer and also:
- Demonstrate ability to handle multiple large and complex projects without supervision.
- Demonstrate good presentation skills including knowledge transfer presentations.
- Ability to serve as the leader for guiding the project team.
- Complete assignments of broad scope and complexity.
- Ability to integrate information from a variety of sources.

**Job Qualifications:**

**Education**

A 4-year BS Degree in Electrical Engineering or other related Engineering degree as appropriate from an accredited curriculum in the US or the equivalent from outside the US.

**Licenses / Certifications**

Current and active California PE license desired.

**Experience**

Mastery of the Associate and Journey level Engineer job duties and demonstrated knowledge and ability to perform the basic duties of the Senior level Engineer. Meets specific technical requirements gained through a minimum of eight years of cumulative experience in engineering, planning and/or operations.

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**SENIOR CONSULTING METERING ENGINEER (51588182)**

**Summary**

The Senior Consulting level engineer job requires mastery of the Senior level engineer skills and duties. This position is responsible for providing technical standards, strategy and implementation support for the electric metering systems, endpoint meters (metrology and meter related communication) and associate equipment and handles complex problems and issues. The Senior Consulting Engineer is a recognized expert within their area of responsibility, identifies opportunities and brings in ideas to help improve company performance and applies extensive knowledge of concepts, principles, and practices to resolve complex problems with only general direction.

**Job Duties:**

Is able to perform the job duties of a Senior level engineer. As assigned, additional job duties include, for metering systems, endpoint meters and associated equipment:

1. Develop and manage major equipment standards and strategies.
2. Analyze and develop the criteria for and support implementation of equipment installation, maintenance, testing, replacement, and
<table>
<thead>
<tr>
<th>Compliance Programs</th>
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</thead>
<tbody>
<tr>
<td>3. Provide guidance to peers and lower level engineers.</td>
</tr>
<tr>
<td>4. Recognized as industry expert internally and externally.</td>
</tr>
</tbody>
</table>

**Scope**

Resolves problems of complex scope. Assignments may require complex solutions. Works independently with limited feedback from supervisor. Expected to apply creative solutions, techniques and approaches to work assignments. Customarily and regularly uses discretion and independent judgment in fulfilling these job functions.

**Interaction**

Assists lower classification engineers and works with the supervisor. Externally, establishes and maintains good relations with counterparts and higher level representatives in third party organizations, e.g., governmental, regulatory, business partner or community entities, using skilled negotiation, tact and diplomacy. Internal contacts include project team members and company management across various departments. May have specialized technical expertise and provides information and training as appropriate in the assigned specialized area.

**Knowledge / Abilities**

Demonstrates knowledge and abilities required for the Associate, Journey and Senior level Engineer and also:
- Able to handle multiple large and complex projects without supervision and serve as team leader.
- Provide leadership, direction, and assistance to project team.
- Successfully negotiate cost effective solutions beneficial to our customers and PG&E.
- Complete complex assignments with few or no precedents or standards.
- Apply extensive knowledge of concepts, principles and practices in a specific field or area of expertise to resolve complex problems.
- Demonstrates strong technical and communications skills.

**Job Qualifications:**

**Education**

A 4-year BS Degree in Electrical Engineering or other related Engineering degree as appropriate from an accredited curriculum in the US or the equivalent from outside the US.

**Licenses / Certifications**

Current California PE license required for Senior Consulting Engineer.

**Experience**

Mastery of the Associate, Journey, and Senior level engineer job duties and demonstrated knowledge and ability to perform the basic duties of the Senior Consulting/Advising Level Engineer. Meets specific technical requirements gained through a minimum of thirteen years of cumulative experience in engineering, planning and/or operations.

**Gas Metering Engineer, Associate (51975240)**

**Summary**

The Associate level engineer job works under the general technical direction of more experienced engineers. This position is responsible for providing technical standards and implementation support for the electric and gas meters (including SmartMeter™) and endpoint meter equipment. The position is also responsible for providing input and executing strategic plans for the electric and gas meters. An “endpoint” as discussed in this document is defined as a meter, including the advanced metering infrastructure/AMI communication module hardware (i.e. Network Interface Card (NIC)/Meter Transmission Unit (MTU)); the communication to the metrology; and associated meter equipment (i.e. socket, wire, bypass test switch; elbow, nipple, coupling, tee, plug).

**Job Duties:**

As assigned, for electric or gas commodity including endpoints, meters, and associated equipment:

1. Develop and update equipment specifications, approve vendors and products
2. Develop design, engineering, maintenance and construction standards, and work procedures within the delegation of authority.
3. Perform, document and publish equipment ratings.
4. a. Provide support for training to field metering personnel.
   b. Provide support and communication to field metering personnel, operations, planning, law, regulatory departments, and customer service departments.
5. Assist other engineers, team members, and supervision by developing, compiling, and providing technical data.
6. Update and manage databases as required.
7. Prepare or support incident investigations, equipment failure analyses and reliability studies.
8. Support emergency material strategy and implementation.
9. Perform meter plant specific job duties which may include QA review, financial reports, and process improvements.
10. Develop and maintain documentation, standards and procedures for SmartMeter™ endpoints including engineering specifications, policies, and bulletins, using the company standard templates.
11. Perform analysis and design necessary for SmartMeter™ endpoint performance, maintenance and remediation.
12. Perform engineering analysis and investigation of meter and endpoint problems and develop solutions for hardware and firmware issues. Specify advanced metering infrastructure (AMI) module (NIC, MTU) software/configuration files for new meters and form factors. Conduct special and engineering studies and root cause analyses on escalated issues from operations that lead to developing and recommending gas module issue resolutions for approval and implementation.

<table>
<thead>
<tr>
<th>Scope</th>
<th>Resolves problems of limited scope and complexity. Assignments are regularly reviewed. As experience increases, greater independence of judgment is expected with respect to standard solution problems.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interaction</td>
<td>Work typically requires direction from more senior engineers and the supervisor. Works primarily with internal personnel. External contact is limited to those assigned by supervisor. Attends selected trade and association meetings.</td>
</tr>
<tr>
<td>Knowledge / Abilities</td>
<td>Able to apply basic engineering principles and theory. Assess and recommend solutions for routine projects. Effective written and oral communications. Prioritize, plan and perform assigned work in an organized manner. Demonstrates good judgment. Shows initiative and is proactive.</td>
</tr>
<tr>
<td>Job Qualifications:</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>Associate Electric Meter Engineer: A 4-year BS Degree in Electrical Engineering or other related Engineering degree as appropriate from an accredited curriculum in the US or the equivalent from outside the US.</td>
</tr>
<tr>
<td>Associate Gas Meter Engineer: A 4-year BS Degree in Mechanical, Civil Engineering or other related Engineering degree as appropriate from an accredited curriculum in the US or the equivalent from outside the US.</td>
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</tr>
<tr>
<td>Licenses / Certifications</td>
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</tr>
<tr>
<td>Experience</td>
<td>One year of experience in engineering, planning and/or operations.</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Gas Metering Engineer (Journey) (51975241)</th>
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</thead>
<tbody>
<tr>
<td>Summary</td>
</tr>
</tbody>
</table>
**Job Duties:**

Able to perform the job duties of the Associate Level engineer As assigned, additional job duties in either gas or electric commodity include endpoints, meters, and associated equipment:

1. Conduct engineering analyses, studies and review project scope for standards compliance.
2. Develop and incorporate equipment arrangement strategies into standards.
3. Provide guidance to peers and lower level engineers.
4. Interprets and applies applicable codes and regulations.
5. Approve deviations from standards and specifications.
6. For maintenance projects/programs (i.e. meter testing, inspections, replacement, and compliance), the following duties describe what the meter engineers perform:
   - Initiate and prepare metering project/program justification and budgetary cost estimates and route for approval
   - Provide engineering or subject matter expert support for existing or new projects/programs
   - Develop and maintain standards, work procedures, job aids, bulletins, etc. related to existing or new projects/programs
   - Receive project/program results and perform analysis that may lead to additional engineering recommendations and project/program justification (i.e. R-test, etc. for an electric journey engineer, and SMC, PMC, GMPCP, etc. for a gas journey engineer)
7. For substation/station, and special metering projects, may perform the following tasks as assigned:
   a. Provide engineering review and requirements.
   b. Participate as necessary in walk downs to establish scope and schedule.
   c. Provide financial information and support.
8. Understand circuit board designs and layout of all endpoints, meter, and AMI module. Provide design input and support architecture to compare and verify changes in endpoint circuit board designs. Document the circuit board designs and layout of approved and purchased endpoints.
9. Develop and improve endpoint removal and return process and related procedures for field personnel and GEMS personnel to perform root cause analysis.
10. Review firmware (FW) and specify configuration of software (SW) for new AMI meter and module.
11. Prior to hand-off to field implementation and operations, work with operations, field personnel, shop personnel (i.e. GEMS), IT, IT Business/Applications/Operation Analysts, gas meter engineers, gas operations personnel, and others to
   a. Test, verify, and certify new software/configuration files for modules
   b. Test, certify, and approve AMI modules
   c. Assess and recommend issue resolutions for AMI modules
12. Work with operations to develop and update endpoint and SW standards and procedures and provide training to field personnel as requested.
13. Work with support teams to certify and distribute module software/configuration files to field lap tops.

**Scope**

Resolves problems of moderate scope. Assignments typically require standard solutions. Generally works independently with limited feedback from other engineers and supervisor. Demonstrates increasing technical and communication skills.

**Interaction**

Work sometimes requires direction from more senior engineers and the supervisor. Works primarily with internal personnel. Some external contact with vendors, PG&E contractors and customers. Governmental contacts only as assigned by supervisor. Attends selected trade and association meetings.

**Knowledge / Abilities**

Demonstrates knowledge and abilities required for the Associate level engineer and also:

- Demonstrates informed judgment when making decisions and recommendations.
- Uses judgment in applying engineering principles and techniques to determine cost effective
<table>
<thead>
<tr>
<th>Job Qualifications:</th>
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</thead>
<tbody>
<tr>
<td><strong>Education</strong></td>
</tr>
</tbody>
</table>
| Electric Journey Engineer: A 4-year BS Degree in Electrical Engineering or other related Engineering degree as appropriate from an accredited curriculum in the US or the equivalent from outside the US.  
Gas Journey Engineer: A 4-year BS Degree in Mechanical, Civil Engineering or other related Engineering degree as appropriate from an accredited curriculum in the US or the equivalent from outside the US. |
| **Licenses / Certifications** |
| Current and active California PE license desired. |
| **Experience** |
| Mastery of the Associate level Engineer job duties or equivalent and demonstrated knowledge and ability to perform the basic duties of the Journey level Engineer. Meets specific technical requirements gained through a minimum of three years of cumulative experience in engineering, planning and/or operations. |

### Gas Metering Engineer, Senior (51975242)

**Summary**
The Senior level engineer job requires mastery of the Journey level engineer skills and duties. This position is responsible for providing and approving technical standards, and implementation support for the gas or electric meters (including SmartMeter™), endpoint meter equipment. The position is also responsible for providing input and executing strategic plans for the electric and gas meters. An "endpoint" as discussed in this document is defined as a meter, including the advanced metering infrastructure/AMI communication module hardware (i.e. Network Interface Card (NIC)/Meter Transmission Unit (MTU)); the communication to the metrology; and associated meter equipment (i.e. socket, wire, bypass test switch; elbow, nipple, coupling, tee, plug). Additionally, the position will perform consultative activities supporting meter reading equipment. Meter reading equipment is defined as (AP’s) Access Points and DCU’s (Data Collector Units).

**Job Duties:**
Able to perform the job duties of a Journey level engineer. As assigned, additional job duties include, endpoints, meters, and associated equipment:
1. Support, perform or lead the development and management of Life Cycle Plans.
2. Support the development of equipment installation, maintenance, testing, replacement, and compliance programs.
3. Provide support on regulatory, governmental and other third party issues.
4. Address and manage emergency issues associated with assigned standards and equipment. Troubleshoot escalated issues and perform/support root cause analysis on endpoint alarms and error flags.
5. Support, perform or lead, as assigned, root cause analyses.
6. Address other internal and external requests that may impact metering assets.
7. Assist with or initiate the investigation and implementation of new technologies. Plan for, certify, evaluate and implement, new endpoint design and technology. Keep abreast of industry best practices that can be turned into improvement opportunities and help drive efficiency in PG&E.
8. Provide guidance to peers and lower level engineers.
9. Represent PG&E at selected trade and association meetings.

**Scope**
Resolves problems of complex scope. Assignments may require complex solutions. Works independently with limited feedback from other engineers and supervisor.

**Interaction**
Work sometimes requires direction from more senior engineers and the supervisor. Works with internal and external personnel. External contacts include vendors, PG&E contractors, customers and regulatory agencies. May include other governmental contacts as assigned by supervisor.

**Knowledge / Abilities**
Demonstrate knowledge and abilities required for the Associate and Journey level Engineer and also:
Demonstrate ability to handle multiple large and complex projects without supervision.  
Demonstrate good presentation skills including knowledge transfer presentations.  
Ability to serve as the leader for guiding the project team.
Complete assignments of broad scope and complexity.  
Ability to integrate information from a variety of sources.
Job Qualifications:

**Education**  
Electric Senior Engineer: A 4-year BS Degree in Electrical Engineering or other related Engineering degree as appropriate from an accredited curriculum in the US or the equivalent from outside the US.

Gas Senior Engineer: A 4-year BS Degree in Mechanical or Civil Engineering or other related Engineering degree as appropriate from an accredited curriculum in the US or the equivalent from outside the US.

**Licenses / Certifications**  
Current and active California PE license desired.

**Experience**  
Mastery of the Associate and Journey level Engineer job duties and demonstrated knowledge and ability to perform the basic duties of the Senior level Engineer. Meets specific technical requirements gained through a minimum of eight years of cumulative experience in engineering, planning and/or operations.

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**Gas Metering Engineer, Senior Consulting (51975243) and Senior Advising (51975244)**

**Summary**  
The Senior Consulting level engineer job requires mastery of the Senior level engineer skills and duties. This position is responsible for providing and approving technical standards and implementation support for the gas or electric meters (including SmartMeter™) endpoint meter. The position is also responsible for providing input and executing strategic plans for the electric and gas meters. An "endpoint" as discussed in this document is defined as a meter, including the advanced metering infrastructure/AMI communication module hardware (i.e. Network Interface Card (NIC)/Meter Transmission Unit (MTU)); the communication to the metrology; and associated meter equipment (i.e. socket, wire, bypass test switch; elbow, nipple, coupling, tee, plug). Additionally, the position will perform consultative activities supporting meter reading equipment. Meter reading equipment is defined as (AP’s) Access Points and DCU’s (Data Collector Units). The Senior Consulting Engineer is a recognized expert within their area of responsibility, identifies opportunities and brings in ideas to help improve company performance and applies extensive knowledge of concepts, principles, and practices to resolve complex problems with only general direction.

**Job Duties:**  
Able to perform the job duties of a Senior level engineer. As assigned, additional job duties include, endpoint, meters and associated equipment:

1. Develop, manage and approve equipment standards and strategies.
2. Jointly work with operations to analyze and develop the criteria for and support implementation of endpoint installation, maintenance, testing, replacement, and compliance programs.
3. Provide guidance to peers and lower level engineers.
4. Recognized as industry expert internally and externally.

**Scope**  
Resolves problems of complex scope. Assignments may require complex solutions. Works independently with limited feedback from supervisor. Expected to apply creative solutions, techniques and approaches to work assignments. Customarily and regularly uses discretion and independent judgment in fulfilling these job functions.

**Interaction**  
Assists lower classification engineers and works with the supervisor. Externally, establishes and maintains good relations with counterparts and higher level representatives in third party organizations, e.g., governmental, regulatory, business partner or community entities, using skilled negotiation, tact and diplomacy. Internal contacts include project team members and company management across various departments. May have specialized technical expertise and provides information and training as appropriate in the assigned specialized area.

**Knowledge / Abilities**  
Demonstrates knowledge and abilities required for the Associate, Journey and Senior level Engineer and also:

- Able to handle multiple large and complex projects without supervision and serve as team leader.
- Provide leadership, direction, and assistance to project team.
- Successfully negotiate cost effective solutions beneficial to our customers and PG&E.
- Complete complex assignments with few or no precedents or standards.
- Apply extensive knowledge of concepts, principles and practices in a specific field or area of expertise to resolve complex problems.
- Demonstrates strong technical and communications skills.
### Qualifications:

| **Education** | Electric Senior Consulting Engineer: A 4-year BS Degree in Electrical Engineering or other related Engineering degree as appropriate from an accredited curriculum in the US or the equivalent from outside the US.  
Gas Senior Consulting Engineer: A 4-year BS Degree in Mechanical, Civil Engineering or other related Engineering degree as appropriate from an accredited curriculum in the US or the equivalent from outside the US. |
| **Licenses / Certifications** | Current California PE license required for Senior Consulting Engineer. |
| **Experience** | Mastery of the Associate, Journey, and Senior level engineer job duties and demonstrated knowledge and ability to perform the basic duties of the Senior Consulting/Advising Level Engineer. Meets specific technical requirements gained through a minimum of thirteen years of cumulative experience in engineering, planning and/or operations. |

## TRANSMISSION PLANNING

| **ASSOCIATE TRANSMISSION PLANNING ENGINEER (51587866)** |
| **Summary** | The Associate Transmission Planning Engineer works under the general technical direction of more experience engineers and supervisor. This position is responsible for providing technical, planning and project implementation support for transmission, substation, and distribution systems. The responsibility level of this position increases with experience and demonstrated ability. |
| **Job Duties** | Job duties for Associate Transmission Planning Engineer include: |

1. Actively foster a safe working environment for self and for fellow employees. Look and act to resolve any unsafe situations.  

**Basecase Preparation**  
2. Support the development and coordination of the basecase creation process, including schedule and deliverables.  
3. Support the coordination and review of data from internal and external stakeholders to ensure accurate basecases.  
4. Review area and system load data to support the development of load forecast.  
5. Support the development of basecase assumptions and transmission system steady-state and dynamic models.  
6. Develop PG&E area and WECC system basecases as required by transmission planning studies.  
7. Provide support for generator testing and model development.  
8. Develop tools and processes to support transmission planning and project implementation functions.  

**Transmission System Studies**  
9. Perform transmission planning studies related to compliance, annual transmission system assessment, all phases of load or generation interconnection, reliability, inter and intra-regional studies, or any other studies to support obligations to internal PG&E departments and external entities.  
10. Coordinate engineering requirements for generation, load interconnection, capacity, reliability, economic, and policy projects.  
11. Analyze reliability indices such as SAIDI, SAIFI and other indicators to propose reliability improvement projects. |
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<tr>
<th></th>
<th>ASSOCIATE TRANSMISSION PLANNING ENGINEER (51587866)</th>
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</thead>
<tbody>
<tr>
<td>13.</td>
<td>Develop and submit new project proposals through the CAISO's Request Window in order to obtain approval.</td>
</tr>
<tr>
<td>14.</td>
<td>Prepare presentations, reports or other materials essential for communication of work to internal and/or external stakeholders. Effectively present technical material to stakeholders as required.</td>
</tr>
<tr>
<td>15.</td>
<td>As required, actively participate in initiatives, studies or industry forums that could impact the PG&amp;E transmission system and support the inclusion of PG&amp;E's interests.</td>
</tr>
<tr>
<td>16.</td>
<td>Under close supervision represent PG&amp;E transmission planning at internal and external meetings and provide technical guidance on transmission planning issues.</td>
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<tr>
<td>17.</td>
<td>Provide responsive input and support to other departments on transmission matters.</td>
</tr>
</tbody>
</table>

**Project Implementation**

| 18. | Participate in project implementation activities to ensure timely implementation of projects and system asset strategies. |
| 19. | Participate as transmission planner in multi-department project team to develop and approve project scope for electric transmission projects. |
| 20. | Prepare project approval documents for management approval. |
| 21. | Perform analysis to support project need and recommendation. |
| 22. | Manage and track implementation of projects and provide updates as required. |
| 23. | Upon completion of projects support all necessary communications and documentations of final ratings and model are completed. |
| 24. | Participate in short and long-term strategy and capital investment planning activities. |
| 25. | Participate in establishing project implementation scope, schedule, and budget. |

**Compliance and Regulatory**

| 26. | Under supervision interface and work with external regulatory agencies. |
| 27. | Support in preparation of need portion of filings with regulatory agencies on transmission projects as necessary. |
| 28. | Support PG&E’s regulatory filings to various regulatory and data requests including FERC’s Transmission Owner (TO) rate case and CPUC’s General Rate Case (GRC). |
| 29. | Support FERC/NERC/WECC/CAISO compliance requirements such as F1004 forms, RIMS, FNM, and FAC, TPL, NUC, and MOD reliability standards and criterion. |
| 31. | Support compliance and regulatory audits as necessary. |

**Scope**

|  | Resolves problems of limited scope and complexity. Assignments are regularly reviewed. As experience increases, greater independence of judgment is expected with respect to standard solution problems. As experience increases demonstrates increasing technical and communication skills. Job duties will vary by assignment. |
# ASSOCIATE TRANSMISSION PLANNING ENGINEER (51587866)

## Interaction
Work typically requires direction from more experienced engineers and supervisor. Works primarily with internal personnel. External contact is limited to those assigned by supervisor. Attends selected trade and association meetings.

## Knowledge/Abilities
1. Able to apply basic engineering principles and theory
2. Able to use various Transmission System Planning and Analysis Tools
3. Assess and recommends solutions for routine projects
4. Effective written and oral communication
5. Prioritize, plan, and perform assigned work in an organized manner
6. Demonstrate good judgment
7. Shows initiative and is proactive
8. Be knowledgeable of area's transmission system, generation and loads.

## Job Qualifications

### Education
A four year Bachelor of Science degree in Electrical Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US.

### License/Certifications
Engineer In Training (EIT) certificate desired

### Experience
Desired, one year of experience in engineering, planning and/or operations.

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# TRANSMISSION PLANNING ENGINEER (51587867)

## Summary
The Transmission Planning Engineer works with limited supervision and guidance and requires mastery of the Associate Transmission Planning Engineer skills and duties. This position is responsible for providing technical, planning and project implementation support for transmission, substation, and distribution systems. This responsibility level of this position increases with experience and demonstrated ability.

## Job Duties
The Transmission Planning Engineer is able independently perform the Associate Transmission Planning Engineer job duties. Additional job duties include:

### Basecase Preparation
- Lead the basecase creation process, including coordinating of the schedule and deliverables.
- Understand methodology and ensure accuracy of PG&E’s transmission load forecast
- Coordinate and lead the review of data from internal and external stakeholders to ensure accurate basecases.
- Review area and system load data to lead the development of load forecast.
- Develop basecase assumptions and transmission system steady-state and dynamic models.

### Transmission System Studies
- Perform long-term studies that develop strategy and comprehensive plan
### Project Implementation

7. To ensure safe, reliable, economic and efficient operation of the electric transmission system.
8. As required, actively participate in initiatives, workgroups, studies or industry forums that could impact the PG&E transmission system and support the inclusion of PG&E’s interests.
9. Participate in complex studies such as RAS design related studies.
10. Manages studies including scope, schedule and cost.

11. Ensure project implementation activities are completed in a timely manner.
12. Manage project implementation scope, schedule, and budget.
13. Upon completion of projects ensure all communications and documentations of final ratings and model are completed.

### Compliance and Regulatory


### Scope

Resolves problems of moderate scope and complexity. Assignments typically require standard solutions. Works independently with limited supervision and feedback from other engineers and supervisor. Demonstrates increasing technical and communication skills. Effectively completes multiple projects concurrently.

Job duties will vary by assignment.

### Interaction

Work sometimes requires direction from more experienced engineers and supervisor. Some external contact with vendors, PG&E contractors and customers. Government contacts only as assigned by supervisor. Attends selected trade and association meetings. Provides technical guidance to Associate Transmission Planning Engineer.

### Knowledge/Abilities

Demonstrates knowledge and abilities required for the Associate Transmission Planning engineer and also:

1. Capable of coordinating a project team, and has basic understanding of roles and responsibilities of project managers.
2. Defines project scope and adequately addresses resources when planning projects.
3. Works with limited supervision and guidance to meet project commitments.
4. Understand and implement the technical requirements of interfacing engineering disciplines.
5. Demonstrates informed judgment when making decisions and recommendations.
6. Uses independent judgment in applying engineering principles and techniques to determine cost effective and practical solutions.
7. Ability to interpret applicable codes, industry standards and regulations.
8. Provides thorough analysis of issues and justification of
**TRANSMISSION PLANNING ENGINEER (51587867)**

recommendations.
9. Proficient oral and written communication skills.

**Job Qualifications**
Three years of electrical engineering experience

**Education**
A four year Bachelor of Science degree in Electrical Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US.

**License/Certifications**
Current and Active California PE license desired

**Experience**
Mastery of the Associate Transmission Planning engineer job duties or equivalent and demonstrated knowledge and ability to perform the basic duties of the Transmission Planning engineer. Meets specific technical requirements gained through a minimum of three years of cumulative experience in engineering, planning and/or operations.

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**SENIOR TRANSMISSION PLANNING ENGINEER (51587868)**

**Summary**
The Senior Transmission Planning Engineer job requires mastery of the Journey Transmission Planning engineer skills and duties. This position is responsible for providing technical, planning and project implementation support for transmission, substation, and distribution systems. The responsibility level of this position increases with experience and demonstrated ability.

**Job Duties**
The Senior Transmission Planning Engineer is able to independently perform the job duties of a Journey Transmission Planning engineer. Additional job duties include:

**Basecase Preparation**
1. Lead and manage approval process for PG&E’s transmission load forecast.
2. Lead generator testing and model development
3. Develop HVDC or other non-standard equipment models for power flow and dynamic stability analysis.

**Transmission System Studies**
4. Primary lead in transmission planning studies including long-term studies that develop strategy and comprehensive plan to ensure safe, reliable, economic and efficient operation of the electric transmission system.
5. Lead and support development of Annual Transmission Planning Assessment and Expansion Plan.
6. Provide technical guidance to internal departments (Engineering, Operations, Substation and T-line asset strategy, Distribution Planning etc.) on planning and policy issues
7. Lead complex studies such as RAS design related studies.
8. Develop and standardize new analytic methods for power system analysis/modeling
9. Lead the development of interconnection handbook, criteria, and standards for WECC/NERC compliance
10. Guide and direct the work of lower level engineers on interconnection studies,
<table>
<thead>
<tr>
<th><strong>SENIOR TRANSMISSION PLANNING ENGINEER (51587868)</strong></th>
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<td>where appropriate.</td>
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</table>

**Project Implementation**

11. Provide technical expertise and lead in the implementation of complex and large scale projects including projects that require a Permit to Construct (PTC) permit.
12. Implement complex projects requiring CPCN permit with guidance.

**Compliance and Regulatory**

13. Lead in preparation of need portion of filings with regulatory agencies on transmission projects as necessary.
14. Lead FERC/NERC/WECC/CAISO compliance requirements such as F1004 forms, RIMS, FNM, and FAC, TPL, NUC, and MOD reliability standards and criterion.
15. Lead annual Gap Analysis for FERC/NERC compliance.

**Scope**

Resolves problems of complex scope. Assignments may require complex solutions. Works independently with limited feedback from other engineers and supervisor. Job duties will vary by assignment.

**Interaction**

Work requires limited interaction with more experienced engineers and supervisor. External contact with vendors, PG&E contractors, regulatory agencies and customers. Government contacts may be required. Attends selected trade and association meetings. Provides technical guidance and mentorship to associate and journey engineers.

**Knowledge/Abilities**

Demonstrate knowledge and abilities required for the Associate and Journey Transmission Planning Engineer and also:

1. Demonstrate ability to handle multiple large scale, large budget complex projects without supervision.
2. Demonstrate good presentation skills including the knowledge transfer presentations.
3. Ability to serve as the leader for guiding the project team.
4. Complete assignments of broad scope and complexity.
5. Ability to integrate information from a variety of sources.
6. Applies extensive knowledge of concepts, principles, and practices in a specific discipline, field, or area of expertise to resolve complex problems.
7. Completes assignments of broad scope and complexity with few precedents or standards, and assignments that require integration of information from a variety of sources.
8. Works independently with only general direction. Often serves as a team leader.
9. Takes ownership of problems and their solutions and provides leadership, direction, and assistance to technical employees and teams. Coaches and develops others.
10. Recognizes and actively seeks value added improvements to the system.
11. Recommends and assists in implementation of strategic direction.

**Job Qualifications:**

Eight years of electrical engineering experience
### SENIOR TRANSMISSION PLANNING ENGINEER (51587868)

<table>
<thead>
<tr>
<th><strong>Education</strong></th>
<th>A four year Bachelor of Science degree in Electrical Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US.</th>
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<tbody>
<tr>
<td><strong>Licenses/ Certifications</strong></td>
<td>Current and active California PE license desired.</td>
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<tr>
<td><strong>Experience</strong></td>
<td>Mastery of the Associate and Journey level Transmission Planning Engineer job duties. Demonstrate knowledge and ability to perform the basic duties of the Senior Transmission Planning Engineer. Meets specific technical requirements gained through a minimum of eight years of cumulative experience in engineering, planning and/or operations.</td>
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</table>

### SENIOR CONSULTING/ SENIOR ADVISING TRANSMISSION PLANNING ENGINEER (51587869/51592663)

| **Summary** | The Senior Consulting / Senior Advising Engineer job requires mastery of the Senior Transmission Planning skills and duties. This position is responsible for providing technical analysis, planning and project implementation support for transmission, substation, and distribution systems.

The Senior Consulting/ Senior Advising Engineer is a recognized expert within their area of responsibility, and someone who can apply their extensive knowledge of engineering principles and practices and system analysis to develop creative solutions to complex problems. |

| **Job Duties** | The Senior Consulting/ Senior Advising Transmission Planning Engineer is able to independently perform the job duties of a Senior Transmission Planning engineer. Additional job duties include:

**Basecase Preparation**

1. Understand methodology, constantly seek improvements in the methodology and manage approval process for PG&E’s transmission load forecast.
2. Primary lead and/or advisor in developing complex models
3. Primary lead/advisor in developing methodology and assumptions complex issues.

**Transmission System Studies**

4. Develop innovative solutions for complex transmission issues
5. Participate as lead transmission planner in multi-department project team to develop project scope for large, complex projects including interstate bulk transmission projects.
6. Lead WECC wide study or study groups
7. Primary lead on inter-regional planning efforts
8. Provide guidance on planning criteria, standards, and regulations |
<table>
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<tr>
<th>Project Implementation</th>
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<tbody>
<tr>
<td>9. Lead in the implementation of projects involving inter-regional coordination including but not limited to path ratings and inter-regional RAS studies, settings and designs.</td>
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<tr>
<td>10. Lead in the implementation of projects that require complex permitting proceedings, including CPCN.</td>
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<tr>
<td>11. Compliance and Regulatory</td>
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<tr>
<td>12. Support or lead compliance and regulatory audits as necessary</td>
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<tr>
<td>13. Acts as a company witness/liaison/information provider to outside parties for project support or any other regulatory proceedings impacting PG&amp;E business.</td>
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<tr>
<th>Scope</th>
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<tr>
<td>Resolves problems of complex scope, which may require complex solutions. Works independently and provides guidance and feedback to other engineers. Expected to apply creative solutions, techniques and approaches to work assignments. Has well-developed technical and communication skills. Job duties will vary by assignment.</td>
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<tr>
<th>Interaction</th>
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<tbody>
<tr>
<td>May be required to work with other Senior Consulting / Senior Advising Engineers and supervisor. Some external contact with vendors, PG&amp;E contractors, regulatory agencies and customers. Government contacts only as assigned by supervisor. Attends selected trade and association meetings. Provides technical guidance to associate, journey and senior engineers.</td>
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<thead>
<tr>
<th>Knowledge/Abilities</th>
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<tbody>
<tr>
<td>Demonstrates knowledge and abilities required for the Associate, Journey and Senior Transmission Planning engineer and also</td>
</tr>
<tr>
<td>1. Is a technical pathfinder who consistently searches for and discovers practical solutions to highly complex problems and delivers positive results</td>
</tr>
<tr>
<td>2. Assesses business conditions, identifies opportunities, and develops programs from a multifunctional, cross-process perspective to enhance corporate business positions.</td>
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<tr>
<td>3. Is recognized as an expert within his/her area of responsibility.</td>
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<tr>
<td>4. Develops technical policies and procedures.</td>
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<tr>
<td>5. Contributes significantly to the development of standards, specifications, construction documents and guidelines.</td>
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<td>6. Conceives and investigates areas in which engineering precedents are not tested.</td>
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<tr>
<td>7. Applies broad and extensive business understanding of technical issues and impacts the strategic direction and policies of the company.</td>
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<tr>
<td>8. Provides high-level advice and expertise to upper management frequently and consistently.</td>
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<tr>
<th>Job Qualifications</th>
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<tr>
<td>Thirteen years of electrical engineering experience</td>
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<tr>
<th>Education</th>
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<tbody>
<tr>
<td>A four year Bachelor of Science degree in Electrical Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US.</td>
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<tr>
<th>License/Certifications</th>
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<tbody>
<tr>
<td>Current and active California PE license desired, but not mandatory. (Current and active California PE license is mandatory for Senior Consulting Transmission Planning Engineer.)</td>
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<tr>
<td><strong>Experience</strong></td>
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## TRANSMISSION OPERATIONS ENGINEERING

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<thead>
<tr>
<th>ASSOCIATE TRANSMISSION OPERATIONS ENGINEER (51729049)</th>
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<tr>
<td><strong>Summary</strong></td>
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<tr>
<td>The Transmission Operations Engineering group provides engineering and technical support to the groups that monitor the transmission power system in real-time 24/7/365. Operations Engineers use applications including computer models of the entire PGE&amp;E transmission system and/or interconnecting systems to run power system studies. Team members conduct research and analysis of operating problems to evaluate power system operations and make recommendations to the dispatchers and grid operators. Operations Engineers utilize their understanding of power systems to partner with and support Transmission Planning, Transmission Outage Planning, System Protection, Substation Engineering, &amp; Substation Asset Strategy to ensure system reliability. Team members maintain relationships with counterparts at the California Independent System Operator (CAISO), WECC, PeakRC and other external entities in order to review procedures, make recommendations, coordinate operations, and ensure safe and reliable operations of the transmission power system. Engineers may be focused in any of the following areas: regional service areas, 500kv, compliance, and/or special projects to improve the transmission system.</td>
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</table>

This is an entry-level Engineer job that works under the general technical direction of more experienced engineers. This position trains in all job duties and requires a high level of training, direction and review of work. |

| **Job Duties**                                      |
| Initial assignments from the tasks below will require direction and supervision; with experience the independence and responsibility will expand and the need for supervision will decrease. |
| 1. Investigates/analyzes assigned technical issues, with supervision of method, progress, and resources. |
| 2. Assists other engineers, project teams, and supervision by developing, compiling, and providing technical data. |
| 3. Applies basic engineering principles and scientific theory. |
| 4. Prioritizes, plans, and recommends solutions. |

| **Scope**                                           |
| Resolves problems of limited scope. Assignments typically require standard solutions. Assignments are regularly reviewed. |

| **Interaction**                                     |
| Internal contacts include System Dispatchers, Transmission Operators, System Protection, Asset Strategy, EMS Engineering, Transmission Planning and others. |

| **Knowledge / Abilities**                           |
| 1. General knowledge of electricity. |
| 2. Effective communication, both written and spoken. |
| 3. Knowledge of power systems, power flow analysis, power system theory, power system stability |

| **Job Qualifications:**                             |
| **Education**                                      |
| A 4-year BS Degree in Electrical Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US. |

| **Licenses / Certifications**                       |
| Current and active California EIT Certificate desired. |

| **Experience**                                     |
| 1-2 years’ experience in engineering desired. |
Summary
The Transmission Operations Engineering group provides engineering and technical support to the groups that monitor the transmission power system in real-time 24/7/365. Operations Engineers use applications including computer models of the entire PGE&E transmission system and/or interconnecting systems to run power system studies. Team members conduct research and analysis of operating problems to evaluate power system operations and make recommendations to the dispatchers and grid operators. Operations Engineers utilize their understanding of power systems to partner with and support Transmission Planning, Transmission Outage Planning, System Protection, Substation Engineering, & Substation Asset Strategy to ensure system reliability. Team members maintain relationships with counterparts at the California Independent System Operator (CAISO), WECC, PeakRC and other external entities in order to review procedures, make recommendations, coordinate operations, and ensure safe and reliable operations of the transmission power system. Engineers may be focused in any of the following areas: regional service areas, 500kv, compliance, and/or special projects to improve the transmission system.

This is a journey-level engineer job that requires executing routine operations engineering duties with minimal assistance. This position requires a moderate level of training, direction and review of work from more senior engineers and peers.

Job Duties
May perform all of the duties of the Associate Transmission Operations Engineer and in addition:
1. Provides timely and accurate engineering analysis, contingency analysis and clearance support, operating procedures and instructions, power flow studies, and other technical support concerning operation of the electric system to internal and external partners.
2. Works with limited supervision and guidance, both independently and/or as a member of a team.
3. Uses independent judgment in applying engineering principles and techniques to determine cost effective and practical solutions.
4. Provides guidance and support on compliance with industry standards (e.g. NERC, WECC, Peak RC) to operations personnel and may develop compliance programs.
5. May provide technical training to operations personnel.
6. Participates in post-event analysis as needed.

Scope
Resolves problems of moderate scope and complexity. Assignments typically require standard solutions. Under general direction, independently plans work to meet assigned objectives; progress is reviewed periodically for technical accuracy and adequacy in process and upon completion.

Interaction
Internal contacts include System Dispatchers, Transmission Operators, System Protection, Asset Strategy, EMS Engineering, Transmission Planning and others.

Knowledge / Abilities
1. Knowledge of power systems, power flow analysis, power system theory, power system stability, and Transmission Planning.
2. Effective communication, both written and spoken.
3. Knowledge of applicable engineering principles, codes, regulations, policies, and procedures related to the industry and PG&E.
4. General understanding of related engineering disciplines (e.g. System Protection, Transmission Planning, Substation Design)

Job Qualifications:
A 4-year BS Degree in Electrical Engineering or a related technical discipline
<table>
<thead>
<tr>
<th>Education</th>
<th>from an accredited curriculum in the US or the equivalent from outside the US.</th>
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<tbody>
<tr>
<td>Licenses /</td>
<td>Current and active California PE license desired</td>
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<tr>
<td>Certifications</td>
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<tr>
<td>Experience</td>
<td>Mastery of the Associate Transmission Operations Engineer job duties and demonstrated knowledge and ability to perform the basic duties of the journey Transmission Operations Engineer. Meets specific technical requirements gained through a minimum of three years of cumulative experience in the field of operations engineering.</td>
</tr>
</tbody>
</table>

**SENIOR TRANSMISSION OPERATIONS ENGINEER (51729103)**

### Summary
The Transmission Operations Engineering group provides engineering and technical support to the groups that monitor the transmission power system in real-time 24/7/365. Operations Engineers use applications including computer models of the entire PGE&E transmission system and/or interconnecting systems to run power system studies. Team members conduct research and analysis of operating problems to evaluate power system operations and make recommendations to the dispatchers and grid operators. Operations Engineers utilize their understanding of power systems to partner with and support Transmission Planning, Transmission Outage Planning, System Protection, Substation Engineering, & Substation Asset Strategy to ensure system reliability. Team members maintain relationships with counterparts at the California Independent System Operator (CAISO), WECC, PeakRC and other external entities in order to review procedures, make recommendations, coordinate operations, and ensure safe and reliable operations of the transmission power system. Engineers may be focused in any of the following areas: regional service areas, 500kv, compliance, and/or special projects to improve the transmission system.

This is a senior-level engineer job that requires mastery of the journey engineer job duties and is responsible for complex system operations engineering duties. This position requires a low level of training, direction and review of work from more senior engineers and peers.

### Job Duties
May perform all of the duties of the journey Transmission Operations Engineer and in addition:

1. Prepares special studies, reports and analysis (including computer system development projects and other advanced analysis methods) to allow more comprehensive evaluation of the operational performance of the power system.
2. Works with limited guidance to complete assignments of broad scope and complexity with few precedents or standards, and assignments that require integration of information from a variety of sources.
3. Applies extensive knowledge of concepts, principles, and practices in power systems engineering to resolve complex problems.
4. Provides leadership, direction, and assistance to technical employees and teams. Coaches and develops others.
5. Provides advanced guidance and support on compliance with industry standards (e.g. NERC, WECC, Peak RC) to operations personnel and develops compliance programs. Participates in development of PG&E standards, procedures and bulletins.

### Scope
Resolves problems of complex scope. Assignments may provide an opportunity for creative or non-standard approaches. Under general direction, independently plans work to meet assigned general objectives. Work may be reviewed upon completion; solution may provide an opportunity for creative/non-standard approaches.
Interaction

Internal contacts include System Dispatchers, Transmission Operators, System Protection, Asset Strategy, EMS Engineering, Transmission Planning and others. External contacts include representatives from CAISO, WECC, Peak RC, neighboring entities and other industry organizations.

Knowledge / Abilities

1. Knowledge of power systems, power flow analysis, power system theory, power system stability, and transmission planning.
2. Effective communication, both written and spoken.
3. Ability to act as a project lead.
4. Knowledge of applicable engineering principles, codes, regulations, policies, and procedures related to the industry and PG&E.

Job Qualifications:

Education
A 4-year BS Degree in Electrical Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US.

Licenses / Certifications
Current and active California PE license desired

Experience
Mastery of the journey Transmission Operations Engineer job duties and demonstrated knowledge and ability to perform the basic duties of the Senior Transmission Operations Engineer. Meets specific technical requirements gained through a minimum of eight years of cumulative experience in the field of operations engineering.

Summary
The Transmission Operations Engineering group provides engineering and technical support to the groups that monitor the transmission power system in real-time 24/7/365. Operations Engineers use applications including computer models of the entire PGE&E transmission system and/or interconnecting systems to run power system studies. Team members conduct research and analysis of operating problems to evaluate power system operations and make recommendations to the dispatchers and grid operators. Operations Engineers utilize their understanding of power systems to partner with and support Transmission Planning, Transmission Outage Planning, System Protection, Substation Engineering, & Substation Asset Strategy to ensure system reliability. Team members maintain relationships with counterparts at the California Independent System Operator (CAISO), WECC, PeakRC and other external entities in order to review procedures, make recommendations, coordinate operations, and ensure safe and reliable operations of the transmission power system. Engineers may be focused in any of the following areas: regional service areas, 500kv, compliance, and/or special projects to improve the transmission system.

This is a Senior Consulting level transmission operations engineer position that requires mastery of the Senior Engineer job duties. The engineer at this level a recognized expert within transmission operations engineering, and applies extensive operations engineering knowledge to resolve complex problems with only general direction. Researches and identifies practical solutions to highly complex problems. Provides technical leadership and coaching.

Job Duties
May perform all of the duties of the Senior Transmission Operations Engineer and in addition:
1. Independently completes assignments of broad scope and complexity with few precedents or standards, and assignments that require integration of information from a variety of sources.
2. Identifies and implements opportunities to improve company performance via power system performance and related operations.
3. Searches for and discovers practical solutions to highly complex problems.
4. Represents PG&E in developing and authoring industry codes, regulations and/or national standards.

**Scope**
Resolves problems of complex scope. Serves as a key technical resource within transmission operations engineering. Regularly expected to apply creativity or new approaches to assignments that may be unique. May receive technical guidance from Principal engineers. May lead others on technically complex projects. Under general direction of supervisor, plans work to meet general objectives. Work may be reviewed upon completion; solution often provides an opportunity for creative/non-standard approaches.

**Interaction**
Internal contacts include System Dispatchers, Transmission Operators, System Protection, Asset Strategy, EMS Engineering, Transmission Planning and others. External contacts include representatives from CAISO, WECC, Peak RC, neighboring entities and other industry organizations.

**Knowledge / Abilities**
1. Knowledge of power systems, power flow analysis, power system theory, power system stability, and transmission planning.
2. Effective communication, both written and spoken.
3. Ability to act as a project lead.
4. Technical coaching and mentoring skills.
5. Knowledge of applicable engineering principles, codes, regulations, policies, and procedures related to the industry and PG&E.

**Job Qualifications:**

**Education**
A 4-year BS Degree in Electrical Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US.

**Licenses / Certifications**
Current and active California PE license desired

**Experience**
Mastery of the Senior Transmission Operations Engineer job duties and demonstrated knowledge and ability to perform the basic duties of the Senior Consulting Transmission Operations Engineer. Meets specific technical requirements gained through a minimum of thirteen years of cumulative experience in the field of operations engineering.

**SMARTMETER OPERATIONS CENTER (SMOC)**

**IT Applications Operations Analyst, Associate (51738237)**

**A. SUMMARY**
The IT Application Operations Analyst designs, debugs and evaluates application interfaces and tools for SmartMeter applications. The Associate IT Application Operations Analyst adheres to Work Instructions and/or processes as defined in Run Books and Playbooks. Conducts basic tasks under direction of a more senior programmer-analyst. Resolves basic and recurring problems of narrow scope within procedural guidelines. Escalates to more experienced resources on unusual or more difficult problems. Is learning to apply standard concepts and techniques to routine assignments with limited scope and risk that fall within standard, well-tested parameters for resolution.

**B. JOB DUTIES**
1. Analyzes existing SmartMeter application interfaces and tools, prepares logical models and procedures, creates SQL code and scheduling scripts, and tests/Debugs the application interfaces and tools.
2. Diagnoses, isolates and corrects data and performance faults in the systems involved.
3. Prepares and obtains approval of system and development documentation.
4. Executes planned and ad-hoc corrective maintenance to sustain continuous system operations.
5. Analyze, evaluate, debug and diagnose bugs, incidents and exceptions in existing SmartMeter applications, interfaces, processes, and procedures.
6. Identify and correct any discrepancies in the data collected, reported and processed in the SmartMeter systems.
7. Interacts with users, business stakeholders and team members, typically discussing and reporting progress of requests and individual incidents.
8. Executes quality control tasks as directed.
9. Provide oversight for the 24 hour clock packages processing to ensure timely bill delivery as agreed to with Meter to Cash Customer Care organization metrics and service level agreements.
10. Provide back up support and recommendations for failed processing related to the 24 hour clock packages to be processed timely to ensure customer web presentment and bill print of accurate usage file data.

C. KNOWLEDGE/ABILITIES
Has a basic understanding of technical components of the job.
Has basic understanding of application systems, how they work, and how they often break.
Has a basic knowledge of key PG&E applications and the technologies in use.
Has excellent written and verbal communications skills.
Has good analytical, problem-solving and technical troubleshooting skills.
Is developing a technical skill set.
Able to work independently and as part of a team.

D. REQUIREMENTS
BA/BS in Computer Science, Business, or equivalent experience.
Typically requires 0 - 3 years of programming analysis experience.

IT APPLICATIONS OPERATIONS ANALYST (51738946)

A. SUMMARY
The Career IT Application Operations Analyst conducts basic and intermediate tasks under direction of a more senior Application Operations Analyst. Adheres to Work Instructions and/or processes as defined in Run Books and Playbooks. Applies technical skills to resolve application and data related problems of well-defined scope as specified by procedural guidelines or under direction of a more senior Application Operations Analyst. Escalates to more experienced resources on unusual or more difficult problems. Fields a broader range of assignments and may be asked to develop solutions. Individuals may begin to be responsible for scoping work. Follows existing Application Development Frameworks, Coding Guidelines and Database Standards when developing.

B. JOB DUTIES
Is able to perform all the duties of the Associate IT Applications Operations Analyst, and in addition:
1. Develops conversion and tool implementation plans.
2. Assist in the definition, development, and documentation of SmartMeter systems’ business requirements, objectives, deliverables, and specifications on a project-by-project basis in collaboration with internal users and departments.
3. Proposes enhancements to procedures, processes and tools based on experiences with current methods.
4. Provide timely, professional, straightforward (non-technical) communications.
5. May also interact with suppliers and contractors when warranted and if permitted.

C. KNOWLEDGE/ABILITIES
Applies the fundamental concepts of a particular field or technical discipline in addressing the work assigned. Has a working knowledge of the technical components of the job. Has intermediate to advanced knowledge of key PG&E applications, processes, and the technologies in use. Has excellent written and verbal communications skills. Is able to work and communicate across multiple departments. Has excellent analytical, problem-solving and technical troubleshooting skills. Is able to work independently and as part of a team.

D. REQUIREMENTS
BA/BS in Computer Science, Business, or equivalent experience; Typically requires minimum 3 years of programming analysis experience Understanding of running utility applications and utility operations centers. Has a solid understanding of application systems, how they work, and how they often break.

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<thead>
<tr>
<th>IT APPLICATIONS OPERATIONS ANALYST, SENIOR (51739130)</th>
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<tr>
<td><strong>Summary</strong></td>
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<tr>
<td>The Senior IT Applications Operations Analysts applies technical skills, system knowledge and subject matter expertise to diagnose and resolve application and data related problems that are unusual, more difficult or have a broad scope. Assignments are based on extensive knowledge of concepts, principles or practices in a specific discipline, field or area of expertise, and require seasoned, experienced-based judgment in applying and adapting techniques. Manages and maintains multiple production and non-production SmartMeter Applications. Performs overall maintenance and monitoring of the applications, including tool development, critical software and OS patching, support of IT Risk Management and Disaster Recovery programs, for all test and production environments. Configures application for optimum performance requirements to meet business requirements. Develops conversion and tool implementation plans. Review and assess business impact and IT operational impact of proposed changes and updates to the application software, interfaces, daily operational schedule, hardware, LAN/WAN network and network/firewall/router components, database, JMS/WebServices/ESB and operating system.</td>
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</table>

| **Job Duties:**                                       |
| Is able to perform all the duties of the Career IT Applications Operations Analyst, and in addition: |
| 1. Interacts with users, business stakeholders, team members, and liaisons from other external groups, including suppliers or contractors, to discuss and diagnose critical or complex issues and incidents |
| 3. May act in a lead capacity to support complex remediation activities, including the design and implementation of complex database routines within the context of existing requirements, business expectations and design constraints. |
| 4. Oversees, mentors, and provides technical guidance to less experienced Application Operations Analysts. |
5. Provide application support for mission critical SmartMeter solutions. Monitor application for performance, maintenance and tune application and interfaces to maintain service level agreements. Execute data correction routines (DCRs) to maintain data accuracy.
6. Assist other SMOC Applications Operations Analysts in resolving complex issues; assist root cause analysis and solutions. Use in-depth skills in solving SmartMeter operational and computing issues.
7. Support and implement application security testing in compliance with Sarbanes-Oxley, Information Protection and Internal Auditing standards.
8. Provide in-depth knowledge and hands-on experience for SmartMeter application solutions to internal business clients and to project groups leveraging SmartMeter-related technologies. Provide analysis and impact assessment for proposed changes and updates to SmartMeter applications, interfaces and daily operating schedule.
9. Provide project updates and reporting for assigned projects. Participate in functional testing and operational testing.
10. Interacts with users, business stakeholders, team members and liaisons from other external groups, including suppliers or contractors, to discuss and diagnose critical or complex issues and incidents.

<table>
<thead>
<tr>
<th>Scope</th>
<th>May seek assistance from Expert Application Operations Analysts on unusual or especially controversial problems.</th>
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<tbody>
<tr>
<td>Interaction</td>
<td>Interaction within SMOC, and with partner IT and partner business groups, primarily with peer stakeholders, requiring sound judgment and advanced knowledge of multiple technologies.</td>
</tr>
<tr>
<td>Knowledge / Abilities</td>
<td>Has a solid understanding of Application Development Frameworks, Coding Guidelines and Database Standards and adheres to these when designing and developing. Applies professional technical concepts of particular field, procedures, and techniques. Has a thorough knowledge of technical components of the job. Has an advanced understanding of application systems, how they work, and how they often break. Has extensive knowledge of key PG&amp;E applications, processes, and the technologies in use. Has excellent written and verbal communications skills. Is able to work and communicate across multiple departments. Has excellent analytical, problem-solving and technical troubleshooting skills. Is able to work independently and as part of a team. Can make realistic, feasible recommendations and facilitate implementation of effective solutions.</td>
</tr>
<tr>
<td>Job Qualifications:</td>
<td></td>
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<tr>
<td>Education</td>
<td>BA/BS in Computer Science, Business, or equivalent experience</td>
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<tr>
<td>Licenses / Certifications</td>
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<tr>
<td>Experience</td>
<td>Minimum 5 years of programming analysis experience.</td>
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</table>
## IT Applications Operations Analyst, Expert (51739128)

### Summary
Assignments are broad and complex, have major associated risks with high visibility, and can be sensitive or widely varied requiring expert judgment in applying and adapting techniques. Designs solutions to application development problems, issues or incidents of complex scope through cross-functional team participation. Initiates and owns process and application improvements and conveys changes to others, gaining organizational support for making changes. Is regularly called on to apply creativity or new approaches to technical assignments that may be unique. May act in a lead capacity to support others on technically complex projects or work. Establishes SmartMeter application operation standards and guidelines and quality assurance for SmartMeter application deliverables, including design, security implementation planning, capacity planning, disaster recovery planning, functional test requirements, and application backup and recovery/data protection. Documents and communicates SmartMeter application and interface design. Provides strategic/visionary recommendations.

### Job Duties:
Is able to perform all the duties of the Senior IT Applications Operations Analyst, and in addition:

1. Consult with **D&I Requirements and Design (RAD)** and **Tier 5 MAME** and Engineering groups aligned to SmartMeter Operations Center to identify, understand, anticipate, and meet current and future business needs.
2. Recommends changes in development, maintenance and system standards.
3. Establishes methods and procedures.
4. Trains users in conversion and implementation of system.
5. May act in a lead capacity and/or coach to develop employees.
6. Provide escalation support for mission critical SmartMeter solutions. Assist other SMOC Applications Operations Analysts in resolving complex issues; act in a lead capacity for root cause analysis efforts and remediation solutions. Use expert skills in solving SmartMeter operational and computing issues.
7. Provide expert-level knowledge and hands-on experience for SmartMeter application solutions to internal business clients and to project groups leveraging SmartMeter-related technologies.
8. Participate in SmartMeter technology forums and provide Operational Standards. Research and develop new technologies and pilot leading edge products, processes, procedures and tools for use of SmartMeter applications and related SmartMeter technologies and for deployment of technologies with other business teams.
9. Provide supporting services for SmartMeter application and technologies with other business teams and other IT teams. Provide expert analysis and impact assessment for complex and enterprise/over-arching type changes and updates to SmartMeter applications, interfaces and daily operating schedule. Provide expert-level knowledge for internal or external audits data request.
10. Coordinate, plan and manage SMOC application changes. May Act in a lead capacity as a liaison with other functional areas of IT. Provide project updates and reporting information for assigned projects as requested.
11. Provide expert level analysis, design and implementation for SMOC...
application and interface projects. May act in a lead capacity for development and implementation efforts in partnership with an integration architect of a new technology or upgrade of current technology. Design functional test requirements and operational test requirements.

12. Communicate, plan and coordinate vendor deliverables, including service deliverables, project targets and due dates, business and IT requirements, and performance and quality expectations with SmartMeter vendor(s).

13. Represent their workgroup, organization and/or manager at meetings with business clients, suppliers, contractors, stakeholders, or other third party internal or external teams.

14. Oversees, mentors and provides technical guidance to less experienced Application Operations Analysts on unusual or especially controversial problems.

15. Adheres to PG&E Delivery Methods (PDM) and predefined compliance processes for project work.

**Scope**

Applies significant technical concepts of subject area and procedures and techniques; is able to use and define technical details of assigned work. Serves as a key technical resource with areas of specialization. Works on complex initiatives with high-stakes impact to critical PG&E applications, systems and processes.

**Interaction**

Broad and complex interaction across IT and the business with all levels of stakeholders, requiring expert judgment, cross-functional understanding of organizations and broad expert level knowledge of core, critical IT technologies.

**Knowledge / Abilities**

Has an advanced understanding of application systems, how they work, and how they often break.

Has extensive knowledge of multiple SmartMeter G&E applications, processes, and the technologies in use.

Has excellent written and verbal communications skills.

Has excellent analytical, problem-solving and technical troubleshooting skills.

Is able to work and communicate across multiple departments.

Advanced knowledge of business requirements; can translate complex business language into technical specifications.

Has a solid understanding of PG&E Delivery Methods (PDM) and compliance processes and impacts to client projects.

**Job Qualifications:**

**Education**

BA/BS in Computer Science, Business, Engineering or equivalent experience.

**Licenses / Certifications**

Certification and/or post graduate work may be desirable.

**Experience**

Minimum 8 years of application development and analysis experience.
A. SUMMARY
The role of the IT Business Operations Analyst is to support the day to day operational support functions of the SmartMeter Operations Center. This position is responsible for activities such as research, data analysis, and metrics and reporting in support of SmartMeter business operations. May also be involved in business and IT process improvement, quality control, special projects and other initiatives as directed. The Associate level IT Business Operations Analyst receives direction from more senior level analysts and leadership.

B. JOB DUTIES
1. Compiles and analyzes data. Performs standard analysis and works with existing data models. Pulls data to populate standard reports.
2. Tracks existing business and operations metrics for the SmartMeter Operations Center.
3. Manage and maintain standard reports.
4. May perform quality assurance and business/IT process improvement activities in support of the SmartMeter Operations Center.
5. Communicates with peers inside and outside of the department, providing information or exchanging data.
6. Compiles process documentation, work instructions, run books, and job aides as requested.
7. Others duties as assigned.

C. KNOWLEDGE/ABILITIES
Basic knowledge of fundamental analysis
Basic knowledge of IT and business operations processes
Qualitative and quantitative analytical skills
Ability to adapt to changing environments
Ability to learn new concepts quickly
Organizational skills
Verbal and written communication skills,
Adaptable to changing business conditions and ambiguity
Ability to present data and findings to an audience
Ability to effectively manage multiple assignments with demanding time constraints
Advanced knowledge of word processing and spreadsheet software such as Microsoft Excel and Word
Basic knowledge of presentation software such as MS Projects, Visio and PowerPoint

D. REQUIREMENTS
BA/BS in Business, Communications, Liberal Arts, Finance, Economics, or related discipline or equivalent work experience required.
Minimum of 1 year experience in business operations analysis or related experience.

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<tr>
<th>IT BUSINESS OPERATIONS ANALYST (51739133)</th>
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<tbody>
<tr>
<td><strong>Summary</strong></td>
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<tr>
<td>The Career IT Business Operations Analyst has a full understanding of fundamental analysis, SmartMeter IT and business operations processes. Understands business needs and is able to develop new processes and procedures, new metrics &amp; reports, may develop custom and ad-hoc reporting working independently.</td>
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<tr>
<td><strong>Job Duties:</strong></td>
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<tr>
<td>Is able to perform all the duties of the Associate IT Business Operations Analyst and in addition:</td>
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</table>
1. Identify and Develop internal SmartMeter operations processes, standards and procedures.
2. Identify recommendations for continuous improvement efforts in partnership across SMOC work groups and SmartMeter clients for monthly and yearly continuous improvement efforts.
3. Gather customer requirements for data needs and selects from different analytical techniques to achieve desired data outcomes.
4. Develops and maintains custom and ad-hoc reports.
5. Identify and communicate, monitor, track, trend, and produce trending data for remediation efforts.
6. Partner with Customer Care to research SmartMeter data and devices for information related to supporting or resolving executive or customer escalated complaints.
7. May act in a lead capacity with special projects and initiatives including SMOC processes improvements and quality control.
8. Partners with other SMOC team members to develop and maintain customer reports needed by the SMOC for both commercial and residential gas and electric SmartMeter customers on an Ad Hoc basis.
9. Perform periodic audits on SMOC operational and IT business processes to ensure compliance (including SOX).
10. May act in a lead capacity for SmartMeter Operations to support company initiatives.
11. Other duties as assigned.

Scope
Communicates with peers inside and outside of the department exchanging ideas or gathering information. May participate on special project teams.

Interaction

Knowledge / Abilities
Public speaking, presentation, and facilitation
Solid understanding of fundamental analysis
Solid understanding of IT and business operations processes
Understands business needs and is able to develop new reports, performs custom and ad-hoc reporting working independently
Advanced in office software such as Microsoft office products
Working knowledge of standard processes such as ITIL methodologies and Lean Six Sigma

Job Qualifications:

Education
BA/BS in Business, Finance, Economics, Engineering or related discipline or equivalent work experience required.

Licenses / Certifications
Lean Six Sigma certification desired but not required

Experience
Minimum of 3 years’ experience in business or operations analysis or related experience

IT BUSINESS OPERATIONS ANALYST, SENIOR (51738253)

Summary
The Senior IT Business Operations Analyst has an advanced understanding of fundamental business analysis, IT and business operations processes. Develops new or revises existing data to predict business outcomes selecting
from complex variables. Develops and uses metrics to identify recommendations related to business strategy and operations. Presents findings and recommendations to management.

**Job Duties:**
Is able to perform all the duties of the Career IT Business Operations Analyst, and in addition:

1. Identify and Develop internal SmartMeter operations processes, standards and procedures utilizing modeling techniques or other techniques available.
2. May act in a lead capacity for user acceptance change management implementations.
3. Develop and/or maintain data models for what-if analysis and for other business purposes.
4. Develop specialized dashboard presentations/business views as needed.
5. Researches best practices; develops internal and external benchmarks in support of business decisions.
6. Perform periodic audits on SMOC operational and IT processes to ensure compliance (e.g. SOX, internal audit teams).
7. Identify gaps in current process and recommend steps to minimize risk.
8. Formulate recommendations and initiatives to support advancement and maturing of all key processes within the Operations Center.
9. Develop processes to perform document control within SMOC.
10. Acts in a lead capacity to support projects, determining scope, budget, timeframes, forming teams, assigning tasks, managing resources and issues. May work with other internal groups within PG&E to align SmartMeter Operations Center goals with that of other groups as needed.
11. Develops advanced/specialized reporting presentations.
12. May manage small to mid-size special projects.
13. May provide direction and coaching to other SMOC IT Analysts. May act as a team lead on projects or initiatives and business requirements development.
14. Maintain, operate and enhance SmartMeter remediation and customer support tools used by SmartMeter operations personnel as approved by the Company.
15. Provide supporting services for processes and standards documentation development to other SMOC staff.
16. Maintain and provide new hire SmartMeter Operations training class curriculum, facilitate internal classes and coordinate training.
17. Facilitates working sessions for business process standards, research and provide recommendations utilizing industry standards.

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<tr>
<th>Scope</th>
<th>Interaction</th>
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<tr>
<td><strong>Knowledge / Abilities</strong></td>
<td>Proficient in fundamental analysis Proficient with IT and business operations processes Ability to communicate findings and recommendations to various levels of management Ability to act in a lead capacity to support project initiatives Ability to translate customer requirements into business cases and technical requirements Ability to develop what-if data models by using data sets and various tools to fit the business analysis need Working knowledge of standard processes such as ITIL methodologies and</td>
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Lean Six Sigma
Proficient in a wide range of office software such as Microsoft office

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<th>Job Qualifications:</th>
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<tr>
<td><strong>Education</strong></td>
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<td><strong>Licenses / Certifications</strong></td>
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<tr>
<td><strong>Experience</strong></td>
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**IT BUSINESS OPERATIONS ANALYST, EXPERT (51738256)**

**Summary**
The Expert IT Business Operations Analyst applies advanced knowledge of IT and business operations to wide-ranging issues. Works with and leverages relationships with Directors and Managers across functions / PG&E. May manage cross-functional special projects or initiatives. Has broad expertise across Gas, Electric operational processes, software/applications, and support tools for SmartMeter Operations in business and data analysis. Provides strategic/visionary recommendations. Expert IT Business Operations Analyst provides governance for SmartMeter process and procedures

**Job Duties:**
Is able to perform all the duties of the Senior IT Business Operations Analyst, and in addition:
1. Develops innovative data solutions to address complex business issues
2. Develop business cases in support of strategy or change initiatives
3. Serves as a key technical and/or process resources; viewed as recognized authority for project or initiative
4. May provide direction and coaching to other IT Business Operations Analysts. May act as a team lead on projects or initiatives

**Knowledge / Abilities**
- Ability to influence leaders inside and outside of the department through data analysis, insights and recommendations
- Ability to act in a lead capacity to support large and complex projects working with cross-functional teams
- Ability to create compelling business cases based on complex business environments and inputs
- Ability to develop new and complex data models
- Advanced knowledge of industry process and quality methodologies such as Total Quality Management, Six Sigma, and ITIL.
- Proficient in a wide range of office presentation and spreadsheet software such as Microsoft office

**Job Qualifications:**

| **Education** | BA/BS in Business, Finance, Economics, Engineering or related discipline or equivalent work experience required. MBA or graduate degree desired. |
| **Licenses / Certifications** | Green or Black Belt Six Sigma certifications desired but not required |
| **Experience** | Minimum of 8 years’ experience in business or operations analysis or related experience. |
A. SUMMARY
The role of the IT Systems Operations Analyst Associate and Career is to provide SmartMeter operations and technical support for data collection and delivery of SmartMeter usage data feeding between customer premise electric and gas SmartMeter with data failure or interrupted data point identifications and to analyze, evaluate and complete remediation steps that engage a successful and accurate bill read. The analyst in this role of the provides core technical support of an IT product line, operation processes, enterprise platform and/or technology service offering managed by IT.

B. JOB DUTIES
1. Safely maintain and operate systems, tools and equipment within the center that provide services associated with PG&E’s SmartMeter Operations Center.
2. Provide operations support as assigned in monitoring, scheduling, analyzing, diagnosing and resolving problems.
3. Communicate all issues, incidents, exceptions, problems, changes, outages, maintenance, root cause findings etc. in accordance with established policies, procedures and guidelines.

C. KNOWLEDGE/ABILITIES
Developing technical competence.
Applies basic technical principles to address problems of limited scope.
Applies basic technical principles to monitor devices and systems.
Supervisor/Manager sets priorities and reviews work regularly.
Excellent written and verbal communications skills.
Good analytical, problem-solving and technical troubleshooting skills
Ability to work independently and as part of a team.

D. REQUIREMENTS
BA/BS in Computer Science, Business, Engineering or equivalent experience.
Typically requires 0-2 years of one or more of the following: IT product, operational processes, Utility domain experience (e.g. Gas, Electric).
Basic knowledge of network protocols (e.g. MODBUS, 2179, DNP and PGE 61850, TCP/IP)
Has basic knowledge of one or more of the following designated area: IT product line, operational process, Utility domain (e.g. Gas, Electric).

IT SYSTEMS OPERATIONS ANALYST (51738258)

A. SUMMARY
The role of the career IT Systems Operations Analyst is to provide technical support of an IT product line, operation processes, enterprise platform and/or technology service offering managed by IT. This position requires the knowledge and experience to function as a Subject Matter Expert (SME) across one or more discipline area such as Gas, Electric, Smart Meter Data Management Systems, RF, Wireless or Data Networks. Operational support duties include monitoring, scheduling, analysis, diagnosis and resolution of problems involving SmartMeter Devices, Backhaul, Head-end and Meter Data Management Systems (MDMS) including data, application, hardware and network components. In addition to these roles, the position provides support to Projects that may impact Smart Meter Operations.

B. JOB DUTIES
1. Is able to perform all the duties of the Associate IT Systems Operations Analyst, and in addition:
2. Provides 3 operations support in monitoring, scheduling, analyzing, diagnosing and resolving problems. Works closely with other IT groups and business groups such as Customer Care
to ensure systems and data are maintained in an efficient manner. Applies knowledge of the operation, management, and maintenance of Smart Meter data, application, network and telecommunication systems, linked systems and peripherals in order to enhance SmartMeter operations.

3. Act in a lead capacity for notification/escalation management for critical outages and exceptions.

4. Participate in design reviews, user acceptance testing, equipment trials and tests as requested for new deployments, products and service offerings. Partner with Product Managers and technical architects to make recommendations for new or retired products as needed.

5. Partner with and maintain a professional Customer/Supplier relationship at all times when interfacing with suppliers and contractors.

6. Assist other analysts and technicians as appropriate in developing their own technical skills through training, presentations and involvement in the process of maintaining and supporting these systems (installations, upgrades, troubleshooting, problem resolution, etc.) Create and maintain training class curriculum, conduct internal classes and coordinate supplier training.

C. KNOWLEDGE/ABILITIES
Demonstrates full technical competence.
Seeks assistance from the supervisor or more senior IT Systems Operations Analyst on unusual or more difficult problems.
Performs assigned tasks of low to average complexity using established procedures.
May coach Associate Analysts.
Intermediate knowledge of MODBUS, 2179, DNP and PGE 61850, TCP/IP
Intermediate to advanced knowledge of one or more of the following designated area: IT product line, operational process, Utility domain (e.g. Gas end points or gas network, Electric end points or electric network).
Excellent written and verbal communications skills.
Able to work and communicate across multiple departments.
Excellent analytical, problem-solving and technical troubleshooting skills

D. REQUIREMENTS
BA/BS in Computer Science, Business, Engineering or equivalent experience.
Typically requires 2-4 years of one or more of the following: IT product, Operational processes, Utility domain experience (e.g. Gas, Electric).

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<tr>
<th>IT SYSTEMS OPERATIONS ANALYST, SENIOR (51738263)</th>
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<td><strong>Summary</strong></td>
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support for Projects that may impact SmartMeter Operations. Responsible for testing new technologies in a lab environment. Participates in design reviews on new deployments. Partners with Product Managers and technical architects to make recommendations for new or retired products.

**Job Duties:**

Is able to perform all the duties of the Career IT Systems Operations Analyst, and in addition:

1. Applies knowledge of the operation, management, and maintenance of Smart Meter data, application, network and telecommunication systems, linked systems and peripherals in order to enhance SmartMeter operations.
2. Assist other analysts and technicians as appropriate in developing their own technical skills through training, presentations and involvement in the process of maintaining and supporting these systems (installations, upgrades, troubleshooting, problem resolution, etc.).
3. Work closely with peers, supervisor, team members and others as needed to identify, plan, prioritize and implement project deliverables.
4. Provides back up support and recommendations for failed processing related to the 24 hour clock packages to be processed timely to ensure customer web presentment and bill print of accurate usage file data

**Scope**

- Frequently demonstrates advanced knowledge and technical competence.
- Exercises independent judgment and discretion in matters of significance with broad scope and high complexity.
- Performs assigned tasks of moderate to high complexity using established procedures.
- Supports development and enhancement of Playbook and Knowledge Base for core processes
- Coaches and mentors staff

**Interaction**

**Knowledge / Abilities**

Excellent written and verbal communications skills.
Excellent analytical, problem-solving and technical troubleshooting skills
Able to work and communicate across multiple departments.
Ability to work independently and as part of a team.
Make realistic, feasible recommendations and facilitate implementation of effective solutions.
Initiate technical and product design improvements and convey changes to others, gain organizational support for making changes.
Extensive knowledge of key PG&E systems and processes.
Advanced knowledge of two or more of the following designated area: IT product line, operational process, Utility domain (e.g. Gas end points or gas network, Electric end points or electric network).
Excellent written and verbal communications skills.

**Job Qualifications:**

**Education**

BA/BS in Computer Science, Business, Engineering or equivalent experience.

**Licenses / Certifications**

Typically requires 5+ years of one or more of the following: IT product,
**Experience**
Operational processes, Utility domain experience (e.g. Gas, Electric). Advanced knowledge of MODBUS, 2179, DNP and PGE 61850, TCP/IP. Must have advanced knowledge of one or more of the following designated area: IT product line, operational process, Utility domain (e.g. Gas, Electric).

**IT SYSTEMS OPERATIONS ANALYST, EXPERT (51738264)**

**Summary**
The role of the Expert IT Systems Operations Analyst is to provide the most advanced technical support of IT product lines, operation processes, enterprise platform and/or technology service offering managed by SMOC. This position functions as a widely recognized expert and consultant both within and outside SMOC. Work scope includes complex projects with high stakes impact to critical PG&E systems. Establishes methods and procedures for the team. Initiates and owns process improvements and convey changes to others, gain organizational support for making changes. Provides strategic/visionary recommendations.

**Job Duties:**
Is able to perform all the duties of the Senior IT Systems Operations Analyst, and in addition:

1. Evaluate and articulate market needs and opportunities for SmartMeter technology-based products and services.
2. Assist IT professionals, application stakeholders and business stakeholders in product implementation and use. Provide content-specific advice to technical architects.
3. Continually look for opportunities to improve processes, reduce costs, increase efficiencies, etc.
4. Acts in a lead capacity and/or coach to develop employees.
5. Participates in root cause analysis investigations and provides solutions for future preventions of same issues in partnership with PG&E - suppliers and contractors.
6. Establishes methods and procedures for the team.

**Scope**
- Assignments are broad and complex, have major associated risks with high visibility, and can be sensitive or widely varied requiring expert judgment in applying and adapting techniques.
- Exercises independent judgment and discretion in matters of significance with broad scope and high complexity.
- Recognized as an expert in the product or domain area inside and outside of PG&E.

**Interaction**

**Knowledge / Abilities**
Mastery-level knowledge of MODBUS, 2179, DNP and PGE 61850, TCP/IP. Able to work and communicate across multiple departments. Mastery-level knowledge of two or more of the following designated area: IT product line, operational process, Utility meter or network level domain (e.g. Gas, Electric). Excellent written and verbal communications skills. Excellent analytical, problem-solving and technical troubleshooting skills.

**Job Qualifications:**
BA/BS in Computer Science, Business, Engineering or equivalent experience.
<table>
<thead>
<tr>
<th><strong>Licenses / Certifications</strong></th>
<th>Expected to have certificates appropriate to technology being supported or equivalent recognition.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Experience</strong></td>
<td>Minimum 8 years of one or more of the following: IT product, Operational processes, Utility domain experience (e.g. Gas, Electric).</td>
</tr>
</tbody>
</table>
**GAS STATION ENGINEERING**

**GAS PROJECT (PLANT) ENGINEER, ASSOCIATE (51785378)**

### Summary

This is an entry-level Engineer job that works under the general technical direction of more experienced engineers. This job is responsible for providing technical engineering support for Gas Transmission Stations for routine projects, including, but not limited to: providing technical data; applying engineering principles to investigate, analyze, and propose solutions to technical issues; assisting project managers, construction personnel, and other business partners to assess project needs, develop and document project scope, support development of cost estimates, identify material procurement needs, oversee or conduct engineering design review, review engineering documents, and provide guidance to the project team. "Gas Transmission Stations" are defined as compressor stations, terminals, storage stations (up to but not including the wellhead valves), and metering and regulation stations. For stations where the Transmission system interconnects with the Distribution system, this classification may perform the duties below at the direction of management. This position is also responsible for Valve Automation projects. The responsibility level of this position increases with experience.

### Job Duties

Initial assignments from the tasks below will require direction and supervision; with experience, the independence and responsibility will expand and the need for supervision will decrease.

1. Assists with or conducts project walk-downs and works with project team, including both internal and external clients, to establish scope of work, schedule, and cost commitments. Gathers technical information from field data and project team.
2. Supports development of cost estimates.
3. Provide engineering review and input on designs, design reviews, perform calculations, and develop engineering and construction documents.
4. Develops, evaluates, and recommends alternative project proposals.
5. Support Facility Engineering in investigation, troubleshooting, research, and resolution of equipment or system issues.
6. Responsible for participating in FAT (factory acceptance testing) or supplier inspections for equipment on projects.
7. Investigates resources required to complete engineering and project-related tasks.
8. Establishes engineering schedule.
9. Review designs and provide technical guidance for code compliance.
10. Manage and control design scope and meet the design schedule.
11. Obtain key engineering disciplines resources required to complete the design, with support from the PM, if needed.
12. Functions as "Lead Engineer" when appropriate and in this role oversees and directs the engineering team.
13. Continuously identify opportunities to improve the engineering work product including the design, constructability, operability and maintainability of gas transmission facilities.
14. Performs engineering for commissioning procedures and participates in on-site commissioning activities for assigned projects.
15. Prepares project forecast for engineering, tracks progress, updates as needed, and provides periodic updates.
16. Provides guidance to design and contractor team members, and reviews design and technical documents. Coordinating with other lines of business ensures designs and technical documents meet appropriate criteria, quality, and job scope.
17. Recommends revisions to existing drawings for routine projects.
| 18. Specifies long-lead time material for assigned projects. | 19. Under direction, reviews and approves project material procurement list, vendor drawings, equipment specification updates, and engineering material requests. |
| 20. Lead or participates in periodic design review meetings. | 21. Coordinates project activities with other disciplines for routine projects. |
| 22. Under direction, provides construction support and evaluates and makes recommendations to resolve field construction problems. | 23. Participates in PHA (Process Hazard Analysis) & PSSR (Pre Startup Safety Review). |
| 24. Supports process improvement initiatives and other special projects. | 25. Supports Maintenance & Operations Group once facility has been commissioned. |
| 26. Prepares written technical documents such as design criteria, specifications, operations and maintenance instructions, commissioning procedures, strength test pressure report, and various technical reports or evaluations. | 27. Oversees completion and recording of all engineering record documents. |

**Scope**
Resolves problems of limited scope. Assignments typically require standard solutions. Assignments are regularly reviewed.

**Interaction**
External contacts typically require coordinating with contractors and providing information to third parties. Internal contacts are with clients and project team members and typically include discussing and reporting progress, exchanging and coordinating information, managing meetings and providing scope documents.

**Job Qualifications**

| Education | A 4-year BS Degree in Engineering from an accredited curriculum in the US or the equivalent from outside the US. |
| Licenses / Certifications | Current and active EIT Certification or California PE license desired. |
| Experience | 1-2 years’ experience in engineering desired. |

**Knowledge / Abilities**

1. Able to apply basic engineering principles and theory.
2. Prioritizes, plans, and recommends solutions for routine projects.
3. Effectively communicates both written and orally.
4. Approaches and plans work in an organized manner to meet project commitments.
5. Demonstrates good judgment when making decisions and recommendations.
6. Frequently shows initiative and takes action proactively.

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**GAS PROJECT (PLANT) ENGINEER (51785384)**

**Summary**
This is a journey-level engineer job that requires mastery of the Associate level engineer skills and duties and is responsible for performing or leading the engineering and design of more complex projects. Uses independent judgment in applying engineering principles, working with minimal supervision. Works with engineers, project managers, construction personnel, and other business partners in assessing project needs. Responsibilities beyond those of associate Project engineer include, but are not limited to, the following: Develop technical studies and reports, provide guidance to contractors and outside vendors, select and manage engineering contractors in the design of gas transmission station facilities. The responsibility level of this position increases with experience.

**Job Duties**
May perform functions of Associate level Engineer and in addition:
1. Mentor other less experienced engineers.
2. Assist in development of design standards and new processes, procedures and tools.
3. Provides technical expertise and performs engineering analyses, studies, and develops conceptual and detail designs.
4. Presents findings to internal organizations, contractors and outside vendors.
5. Conducts walk-downs and design review meetings.
6. Solicits, prepares, and evaluates contracts and proposals from engineering consultants. Reviews consultant contracts for technical compliance and reviews the work of consultant and contract engineers.
7. Interprets and applies applicable codes and regulations.
10. Approves reports, new drawings, and revisions to existing drawings for projects.
11. Evaluate innovative and practical design solutions for the project with a focus on cost reductions, safety and reliability.
12. Performs engineering for commissioning procedures and participates in on-site commissioning activities for more advanced facilities.
13. With appropriate training, may lead low complexity PHA’s and PSSR’s for assigned projects.

**Scope**

Resolves problems of moderate scope. Assignments typically require standard solutions. Under general direction, independently plans work to meet assigned objectives; progress is reviewed periodically for technical accuracy and adequacy in process and upon completion.

**Interaction**

External contacts are primarily coordinating with contractors and vendors. Internal contacts are with clients and project team members. May guide the work of less experienced team members. Exchanges information with others outside the team. May partner to solve problems or explore alternative solutions.

**Job Qualifications**

**Education**

A 4-year BS Degree in Engineering from an accredited curriculum in the US or the equivalent from outside the US.

**Licenses / Certifications**

Current and active California PE license desired.

**Experience**

Mastery of the Associate level Engineer job duties or equivalent and demonstrated knowledge and ability to perform the basic duties of the Journey Level Engineer. Meets specific technical requirements gained through a minimum of three (3) years of cumulative and relevant experience in engineering and design.

**Knowledge / Abilities**

Demonstrates knowledge and abilities required for the Associate level engineer and also:

1. Capable of coordinating with project team, and has basic understanding of the roles and responsibilities of project managers.
2. Able to work with limited supervision and guidance to meet project commitments.
3. Able to work with internal and external customers and suppliers.
4. Able to understand and implement the technical requirements of interfacing engineering disciplines.
5. Demonstrates informed judgment when making decisions and recommendations.
6. Uses judgment in applying engineering principles and techniques to determine cost effective and practical solutions.
7. Ability to manage and complete several projects concurrently, depending on scope and complexity.
8. Interprets applicable codes, industry standards and regulations and educates others.
9. Can provide thorough analysis of issues and justification of recommendations.
10. Takes ownership of problems and their solutions.
11. Able to understand and implement the technical requirements of interfacing engineering disciplines.
### GAS PROJECT (PLANT) ENGINEER, SENIOR (51785389)

**Summary**
This is a senior-level engineer job that requires mastery of the journey engineer job duties and is responsible for leading engineering and design of complex projects. Applies extensive knowledge of concepts, principles, and practices to resolve complex problems with only general direction. Provides leadership, coaching, technical direction, knowledge transfer and assistance to technical employees and teams. Additional responsibilities beyond the Project engineer include, but are not limited to, the following: Deliver presentations, lead team meetings, interpret industry practices and codes.

**Job Duties:**
May perform functions of Associate and Journey level Engineers and in addition:
1. Manage large complex projects and perform engineering analyses, studies, and develop conceptual designs.
2. Lead, coach, direct, and assist technical employees and teams on technical issues.
3. May act as an engineering mentor.
4. Assist in finalizing contract project specification and technical evaluation of contract project bids.
5. Provide support to other departments in land, permitting, and legal issues.
6. Assist in business case/justifications for presentation to upper management.

**Scope**
Resolves problems of complex scope. Assignments may provide an opportunity for creative or non-standard approaches. Under general direction, independently plans work to meet assigned general objectives. Work may be reviewed upon completion; solution may provide an opportunity for creative/non-standard approaches.

**Interaction**
External contacts are with contractors, vendors and local public agencies with ministerial authority. Internal contacts are with clients, project team members, and company management and leadership. May provide technical direction to less experienced team members. Exchanges information and solves problems with others outside the team.

**Job Qualifications:**

| Education | A 4-year BS Degree in Engineering from an accredited curriculum in the US or the equivalent from outside the US. |
| Licenses / Certifications | Current and active California PE license desired. |
| Experience | Mastery of the Associate and Journey level Engineer job duties and demonstrated knowledge and ability to perform the basic duties of the Senior level Engineer. Meets specific technical requirements gained through a minimum of eight (8) years of cumulative experience in engineering and design. |
| Knowledge / Abilities | Demonstrate knowledge and abilities required for the Associate and Journey level Engineer and also: 1. Demonstrate ability to handle multiple large scale and complex projects without supervision. 2. Demonstrate good presentation skills including knowledge transfer presentations. 3. Ability to serve as the leader for an engineering team including outside contractors. 4. Complete assignments of broad scope and complexity. 5. Ability to integrate information from a variety of sources. 6. Ability to lead process improvement initiatives. |
**GAS PROJECT (PLANT) ENGINEER, SENIOR CONSULTING (51785393)**

**Summary**
This is a senior consulting-level engineer job that requires mastery of the senior engineer duties. The Senior Consulting Engineer leads complex engineering projects, is a recognized expert within their area of responsibility, and applies extensive knowledge of concepts, principles, and practices to resolve complex problems with only general direction. Provides technical leadership and coaching. Researches and identifies practical solutions to highly complex problems. Identifies opportunities and brings in ideas to help improve company performance. Additional responsibilities beyond the senior Project Engineer include, but are not limited to, the following: develops programs in a multifunctional business process, and provides high-level advice and expertise to various PG&E lines of business. This position is responsible for the design of Gas Transmission compressor stations or similarly highly complex facilities.

**Job Duties**
May perform the functions of Associate, Journey and Senior level Engineer and in addition:
1. Manage large highly complex projects and perform engineering analyses, studies, and develop conceptual designs.
2. Develop innovative solutions to solve challenging technical issues.
3. Acts as a lead in root cause analysis and makes recommendations to address local and system-wide problems.
4. Acts as a company witness, liaison, and/or information provider to outside parties.
5. Develops technical policies, procedures, and contributes to the development of standards, specifications, construction documents, and guidelines.
6. Represents PG&E at external industry associations, committees, trade organizations and other inter-utility groups.
7. Acts as an engineering mentor and role model.
8. Openly share and apply expertise within PG&E
9. Assist in business case/justifications for presentation to upper management

**Scope**
Resolves problems of very complex scope. Serves as a key technical resource within area of specialization. Regularly expected to apply creativity or new approaches to assignments that may be unique. May lead others on technically complex projects. Customarily and regularly uses discretion and independent judgment in fulfilling these job functions.

**Interaction**
Externally, establishes and maintains good relations with counterparts and higher level representatives in third party organizations, e.g., governmental, regulatory, business partner or community entities, using skilled negotiation, tact and diplomacy. Internal contacts include project team members, company management across various departments. Serves as the most senior level technical expert on the team. Often is a technical coach for others.

**Job Qualifications**

**Education**
A 4-year BS Degree in Engineering from an accredited curriculum in the US or the equivalent from outside the US.

**Licenses / Certifications**
Current California PE license required.

**Experience**
Mastery of the Associate, Journey, and Senior level engineer job duties and demonstrated knowledge and ability to perform the basic duties of the Senior Consulting Level Engineer. Meets specific technical requirements gained through a minimum of thirteen (13) years of cumulative experience in engineering and design.

**Knowledge / Abilities**
Demonstrates knowledge and abilities required for the Associate, Journey and Senior level Engineer and also:
1. Able to handle multiple large and complex projects without supervision and serve as team leader.
2. Provide leadership, direction, and assistance to engineers and designers.
Coach and develop engineers.

3. Successfully negotiate cost effective solutions beneficial to our customers and PG&E.

4. Complete complex assignments with few or no precedents or standards.

5. Apply extensive knowledge of concepts, principles and practices in a specific field or area of expertise to resolve complex problems.

<table>
<thead>
<tr>
<th>GAS PROJECT (PLANT) ENGINEER, PRINCIPAL (51785395)</th>
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</thead>
<tbody>
<tr>
<td><strong>Summary</strong></td>
</tr>
<tr>
<td>This category is for the engineer that has acquired extensive knowledge in a specific discipline or area of expertise that has the recognition for such knowledge both inside PG&amp;E and by the industry in general. This engineer provides technical input to industry organizations; works independently and provides analysis techniques to develop creative solutions.</td>
</tr>
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<tr>
<th><strong>Job Duties</strong></th>
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<tbody>
<tr>
<td>May perform the functions of Associate, Journey, Senior, and Senior Consulting Engineer and in addition:</td>
</tr>
<tr>
<td>1. Lead large highly complex (multi-discipline, multi-group) projects and performs technical analyses, studies, and develops conceptual solutions.</td>
</tr>
<tr>
<td>2. Provide internal consulting for PG&amp;E in areas of expertise.</td>
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<tr>
<td>3. Provide consulting to management in an area which is strategically important to PG&amp;E’s business and which is best served with in-house expertise.</td>
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<tr>
<td>4. Makes significant contribution in the formation of PG&amp;E strategy on key technical issues.</td>
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<tr>
<td>5. Routinely called upon by management and others in the industry to provide advice or leadership on issues that are of strategic importance to PG&amp;E.</td>
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<tr>
<td>6. Identifies and implements opportunities to improve company performance (safety, finances, quality, and operations).</td>
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<tr>
<th><strong>Scope</strong></th>
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<tbody>
<tr>
<td>Resolves issues of very complex scope. Serves as a key technical resource within area of specialization. Regularly expected to apply creativity or new approaches to assignments that may be unique. May lead others on technically complex projects. Customarily and regularly uses discretion and independent judgment in fulfilling these job functions.</td>
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<table>
<thead>
<tr>
<th><strong>Interaction</strong></th>
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<tbody>
<tr>
<td>Externally, establishes and maintains good relations with counterparts in other groups within the Company and higher level representatives in third party organizations, e.g., governmental, regulatory, business partner or community entities, using skilled negotiation, tact and diplomacy. Internal contacts include project team members, company management across various departments. Serves as the most senior level technical expert on the team. Often is a technical coach for others. May participate in professional affiliations (e.g. ASCE, ASME, AGA) to keep abreast of new industry trends, developments and procedures. May represent the company on industry association committees.</td>
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</table>

<table>
<thead>
<tr>
<th><strong>Job Qualifications</strong></th>
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<tbody>
<tr>
<td><strong>Education</strong></td>
</tr>
<tr>
<td>A 4-year BS Degree in Engineering from an accredited curriculum in the US or the equivalent as defined in ANSI standards.</td>
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</tbody>
</table>

| **Licenses / Certifications**                     |
| Current California PE license required. |

| **Experience**                                    |
| Mastery of the Associate, Journey, Senior, and Senior Consulting level engineer job duties and demonstrated knowledge and ability to perform the basic duties of the Principal Level Engineer. Meets specific technical requirements gained through a minimum of fifteen (15) years of cumulative experience in engineering and design. |

| **Knowledge / Abilities**                         |
| Demonstrates knowledge and abilities required for the Associate, Journey, Senior and Senior Consulting level Engineer and also: |
| 1. Able to handle multiple large and complex projects without supervision and serve as team leader. |
2. Provide leadership, direction, and assistance to engineers and designers. Coach and develop engineers.
3. Successfully negotiate cost effective solutions beneficial to our customers and PG&E.
4. Complete complex assignments with few or no precedents or standards.
5. Apply extensive knowledge of concepts, principles and practices in a specific field or area of expertise to resolve complex problems.

**CONTROL SYSTEMS ENGINEER, ASSOCIATE (51785471)**

**Summary**
This is an entry-level engineering position that works under the general technical direction of more experienced engineers. This position trains in all job duties and requires a high level of training, direction, and review of work. This position is responsible for providing controls engineering for routine projects, maintenance, and operation support including, but not limited to: RTU and PLC programming, HMI programming, field support of maintenance and construction personnel and commissioning.

**Job Duties**
1. Provide engineering review and input on designs, design reviews, calculations, perform calculations and develop engineering and construction documents.
2. Provide "hands on" technical support and advice to maintenance, construction and operations personnel.
3. Assist and collaborate with the field personnel in investigation, troubleshooting, research, and resolution of equipment or system issues.
4. Participate in FAT (factory acceptance testing) for equipment on projects.
5. Ensure all work incorporates industry best practices with an emphasis on safety and compliance while ensuring a reliable and cost effective end results.
6. Review designs and provide technical guidance for code compliance.
7. On routine projects, manage and control design scope and meet the design schedule.
8. Work collaboratively with other work groups and departments to achieve desired results.
9. Continuously identify opportunities to improve the way work is designed and constructed.
10. Perform on-site commissioning activities for assigned projects.
11. With assistance, program PLCs, RTUs and HMIs.
13. Perform commissioning on basic facilities.
14. Troubleshoot basic equipment malfunctions.
15. Develop control circuit diagrams.
17. Participates in PHA (Process Hazard Analysis) & PSSR (Pre Startup Safety Review).

**Scope**
Resolves problems of limited scope. Assignments typically require standard solutions. Assignments are regularly reviewed.

**Interaction**
External contacts typically require coordinating with contractors and providing information to third parties. Internal contacts include SCADA specialists, GC M&C, gas project engineering, project management, and maintenance and operations personnel.

**Knowledge/Abilities**
1. Able to apply basic engineering principles and theory.
2. Basic knowledge of binary and hexadecimal numbers.
3. Basic knowledge of control systems including PID control.
4. Basic knowledge of electricity and electronics.
## CONTROL SYSTEMS ENGINEER, ASSOCIATE (51785471)

| 5. | Basic knowledge of codes and standards (API, IEEE, NEC, NFPA, ISA, AGA). |
| 6. | Able to read and understand P&IDs. |
| 7. | Basic knowledge of hazardous areas and protection techniques for installing equipment in these areas. |

### Job Qualifications

### Education

A 4-year BS degree in Electrical Engineering or Mechanical Engineering from an accredited curriculum in the US or the equivalent from outside the US. Candidates with a BS degree from other engineering disciplines may be considered with one year of controls experience.

### Licenses / Certifications

Current and active California EIT certificate desired.

### Experience

1-2 years of experience in engineering is desired.

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## CONTROL SYSTEMS ENGINEER, JOURNEY (51785655)

### Summary

This is a journey-level engineering position. This position is responsible for providing controls engineering for routine projects, maintenance, and operation support including, but not limited to: RTU and PLC programming, HMI programming, field support of maintenance and construction personnel and commissioning, create design criteria, create sketches, and review drawings. This position works independently on routine assignments.

### Job Duties

May perform all the functions of Associate Control Systems Engineer and in addition:

1. Mentor lower level engineers.
2. Assist in development of design standards and new tools.
3. Provide technical guidance for various codes interpretation and compliance.
4. Support department code compliance initiatives and Gas Standards.
5. Review the work of contract engineers.
6. Evaluate innovative and practical design solutions for the project with a focus on cost reductions, safety and reliability.
7. Program PLCs, RTUs and HMIs.
8. May act as a project engineer on controls-related projects.
9. Support maintenance and operations personnel with controls equipment.
10. Perform commissioning on more advanced facilities.
11. Participate in and provide feedback during job walk-downs.
12. Develop criteria and requirements for and witness FAT (factory acceptance tests) and bench testing.
13. Develop and provide engineering review and input on engineering designs, design reviews, perform complex calculations and engineering and construction documents (design criteria, control philosophy, specifications, construction drawings, O&MI, operating diagrams, P&IDs, startup procedures, etc.).
14. With appropriate training, may lead low complexity PHA’s and PSSR’s for assigned projects.

### Scope

Resolves problems of moderate scope and complexity. Assignments typically require standard solutions. Under general direction, independently plans work to meet assigned objectives; progress is reviewed periodically for technical accuracy and adequacy in process and upon completion.

### Interaction

External contacts typically require coordinating with contractors and providing information to third parties. Internal contacts include SCADA specialists, GC M&C, gas project engineering, project management, and maintenance and operations personnel.
### Knowledge/Abilities

1. Takes ownership of problems and their solutions.
2. Knowledge of valve types (ball, plug, globe, gate, butterfly) and their characteristics and applications.
3. Knowledge of sensor types and their characteristics and applications.
4. Knowledge of control systems including PID control.
5. Knowledge of electricity and electronics.
7. Knowledge of communication technologies including hardware architectures, addressing schemes, protocols and security considerations.
8. Knowledge of IEC 61131-3 programming languages (ladder, function block diagram, structured text) and the ability to program PLCs, RTUs and HMIs.
9. Knowledge of regulating and PLS stations and their auxiliary systems and controls.
10. Knowledge of hazardous areas and protection techniques for installing equipment in these areas.

### Job Qualifications

#### Education

A 4-year BS degree in Electrical Engineering or Mechanical Engineering from an accredited curriculum in the US or the equivalent from outside the US. Candidates with a BS degree from other engineering disciplines may be considered with three years of controls experience.

### Licenses/Certifications

Current and active California PE license desired.

### Experience

Mastery of the associate level engineer job duties or equivalent and demonstrated knowledge and ability to perform the basic duties of the journey level engineer. Meets specific technical requirements gained through a minimum of three years of cumulative experience in engineering and design.

### Summary

This is a senior-level engineering position. This position works with a high degree of independence on all but the most complex projects and is responsible for providing controls engineering for complex projects, maintenance, and operation support including, but not limited to: RTU and PLC programming, HMI programming, field support of maintenance and construction personnel and commissioning.

### Job Duties

May perform all the functions of Associate and Journey Control Systems Engineer and in addition:

1. Coach, direct, and assist technical employees and teams. Occasionally act as team leader.
2. Performs root cause analysis and makes recommendations to address local and system-wide implications under emergencies.
3. Review and comment on new design standards.
4. Identify and resolve standards deficiencies and recommend standards upgrades.

### Scope

Resolves problems of complex scope. Assignments may provide an opportunity for creative or non-standard approaches. Under general direction, independently plans work to meet assigned general objectives. Work may be reviewed upon completion; solution may provide an opportunity for creative/non-standard approaches.

### Interaction

External contacts typically require coordinating with contractors and providing information to third parties. Internal contacts include SCADA specialists, GC M&C, gas project engineering, project management, and maintenance and operations personnel.

### Knowledge/Abilities

1. Takes ownership of problems and their solutions.
2. Knowledge of valve types (ball, plug, globe, gate, butterfly) and their characteristics and applications.
### CONTROL SYSTEMS ENGINEER, SENIOR (51785656)

3. Knowledge of sensor types and their characteristics and applications.
4. Able to perform commissioning on more advanced facilities.
5. Expert knowledge of control systems including PID control.
6. Knowledge of electricity and electronics.
8. Expert knowledge of communication technologies including hardware architectures, addressing schemes, protocols and security considerations.
9. Expert knowledge of IEC 61131-3 programming languages (ladder, function block diagram, structured text) and the ability to program PLCs, RTUs and HMIs.
10. Advanced knowledge of hazardous areas and protection techniques for installing equipment in these areas.
11. Knowledge of computer networking and security including topologies, protocol and equipment.
12. Expert knowledge of regulating and PLS stations and their auxiliary systems and controls.
13. Knowledge of compressor stations and their auxiliary systems and controls.
14. Knowledge of UL 508 industrial control panel design.

### Job Qualifications

**Education**
A 4-year BS degree in Electrical Engineering or Mechanical Engineering from an accredited curriculum in the US or the equivalent from outside the US. Candidates with a BS degree from other engineering disciplines may be considered with eight years of controls experience.

**Licenses / Certifications**
Current and active California PE license desired.

**Experience**
Mastery of the journey level engineer job duties or equivalent and demonstrated knowledge and ability to perform the basic duties of the senior level engineer. Meets specific technical requirements gained through a minimum of eight years of cumulative experience in engineering and design.

### CONTROL SYSTEMS ENGINEER, SENIOR CONSULTING (51785657)

**Summary**
This is a senior consulting-level engineering position. This position is responsible for providing controls engineering for highly complex projects, maintenance, and operation support including, but not limited to: RTU and PLC programming, HMI programming, field support of maintenance and construction personnel and commissioning. This position is responsible to understand computer networking and cybersecurity requirements for the gas controls systems and to ensure designs and equipment are in compliance. Provide technical leadership and coaching.

**Job Duties**
May perform all the functions of Associate, Journey, and Senior Control Systems Engineer and in addition:
1. Represent PG&E at external industry associations, committees, trade organizations and other inter-utility groups.
2. Develop innovative solutions to solve challenging technical issues.
3. Act as team leader.
4. Performs complex root cause analysis and makes recommendations to address local and system-wide implications under emergencies.
5. Lead creation of new design standards.
6. Review design and programming of SCADA equipment to ensure compliance with current cybersecurity standards and practices.

**Scope**
Resolves problems of complex scope. Serves as a key technical resource within gas electrical system. Regularly expected to apply creativity or new approaches to assignments that may be unique. May receive technical guidance from Principal engineers. May lead others on technically complex projects. Under general direction of
**CONTROL SYSTEMS ENGINEER, SENIOR CONSULTING (51785657)**

<table>
<thead>
<tr>
<th>Interaction</th>
<th>External contacts typically require coordinating with contractors and providing information to third parties. Internal contacts include SCADA specialists, GC M&amp;C, gas project engineering, project management, and maintenance and operations personnel. May represent the company on committees. Often is a technical coach for others.</th>
</tr>
</thead>
</table>
| Knowledge/Abilities | 1. Takes ownership of problems and their solutions.  
2. Expert knowledge of valve types (ball, plug, globe, gate, butterfly) and their characteristics and applications.  
3. Expert knowledge of sensor types and their characteristics and applications.  
4. Able to perform commissioning on more advanced facilities.  
5. Expert knowledge of control systems including PID control.  
6. Knowledge of electricity and electronics.  
8. Expert knowledge of communication technologies including hardware architectures, addressing schemes, protocols and security considerations.  
9. Expert knowledge of IEC 61131-3 programming languages (ladder, function block diagram, structured text) and the ability to program PLCs, RTUs and HMIs.  
10. Expert knowledge of hazardous areas and protection techniques for installing equipment in these areas.  
11. Expert knowledge of computer networking and security including topologies, protocol and equipment.  
12. Expert knowledge of regulating and PLS stations and their auxiliary systems and controls.  
13. Expert knowledge of compressor stations and their auxiliary systems and controls.  
14. Knowledge of cyber security standards and the recommended or mandated practices. |

**Job Qualifications**

| Education | A 4-year BS degree in Electrical Engineering or Mechanical Engineering from an accredited curriculum in the US or the equivalent from outside the US. Candidates with a BS degree from other engineering disciplines may be considered with thirteen years of controls experience. |
| Licenses/Certifications | Current and active California PE license in Electrical Engineering or Controls Systems Engineering required for Sr. Consulting Engineer. |
| Experience | Mastery of the senior level engineer job duties or equivalent and demonstrated knowledge and ability to perform the basic duties of the senior consulting level engineer. Meets specific technical requirements gained through a minimum of thirteen years of cumulative experience in engineering and design. |

**CONTROL SYSTEMS ENGINEER, PRINCIPAL (51785659)**

| Summary | This is a principal-level engineering position. This position is responsible for providing controls engineering for the most complex projects, maintenance, and operation support including, but not limited to: RTU and PLC programming, HMI programming, field support of maintenance and construction personnel and commissioning. Individual is a recognized industry expert both within and outside PG&E. |
| Job Duties | May perform all the functions of Associate, Journey, Senior and Senior Consulting Control Systems Engineer and in addition:  
1. Lead large highly complex (multi-discipline, multi-group) projects and performs technical analyses, studies, and develops conceptual solutions. |
<table>
<thead>
<tr>
<th>Control Systems Engineer, Principal (51785659)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Provide high level system review for projects and corporate initiatives which may span across multiple organization and business units in the PG&amp;E corporate enterprise.</td>
</tr>
<tr>
<td>3. Provide long term vision for applying existing and emerging technology to accomplish safe, reliable and affordable engineering design for construction and maintenance.</td>
</tr>
<tr>
<td>4. Collaborate with industry to develop technology and products which would benefit PG&amp;E while adhering to national and international standards such as ISA and IEC for multi-vendor support.</td>
</tr>
</tbody>
</table>

**Scope**
Resolves problems of complex scope. Serves as a key technical resource within gas electrical system. Regularly expected to apply creativity or new approaches to assignments that may be unique. Leads others on technically complex projects. Under general direction of supervisor, plans work to meet general objectives. Work may be reviewed upon completion; solution often provides an opportunity for creative/non-standard approaches.

**Interaction**
External contacts typically require coordinating with contractors and providing information to third parties. Internal contacts include SCADA specialists, GC M&C, gas project engineering, project management, and maintenance and operations personnel. Participates in professional affiliations to keep abreast of new industry trends, developments and procedures. May represent the company on committees. Often is a technical coach for others.

**Knowledge/Abilities**
1. Takes ownership of problems and their solutions.
2. Expert knowledge of valve types (ball, plug, globe, gate, butterfly) and their characteristics and applications.
3. Expert knowledge of sensor types and their characteristics and applications.
4. Able to perform commissioning on more advanced facilities.
5. Expert knowledge of control systems including PID control.
6. Knowledge of electricity and electronics.
8. Expert knowledge of communication technologies including hardware architectures, addressing schemes, protocols and security considerations in simple and complex DCS systems at facilities.
9. Expert knowledge of IEC 61131-3 programming languages (ladder, function block diagram, structured text) and the ability to program PLCs, RTUs and HMIs.
10. Knowledge of hazardous areas and protection techniques for installing equipment in these areas.
11. Expert knowledge of computer networking and security including topologies, protocol and equipment used in wide area SCADA networks.
12. Expert knowledge of regulating and PLS stations and their auxiliary systems and controls.
13. Expert knowledge of compressor stations, underground storage facilities, and major pipeline terminals and their auxiliary systems and controls.
14. Expert knowledge of cyber security standards and the recommended or mandated practices and the ability to implement these procedures.

**Job Qualifications**

<table>
<thead>
<tr>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>A 4-year BS degree in Electrical Engineering or Mechanical Engineering from an accredited curriculum in the US or the equivalent from outside the US. Candidates with a BS degree from other engineering disciplines may be considered with extensive controls experience. MS degree desired.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Licenses / Certifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current and active California PE license in Electrical Engineering or Controls Systems Engineering required.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mastery of the senior consulting level engineer job duties or equivalent and demonstrated knowledge and ability to perform the basic duties of the journey level</td>
</tr>
</tbody>
</table>
### CONTROL SYSTEMS ENGINEER, PRINCIPAL (51785659)

engineer. Meets specific technical requirements gained through a minimum of fifteen years of cumulative experience in engineering and design.

### ASSOCIATE POWER SYSTEMS ENGINEER (GAS) (51785396)

#### Summary
This is an entry-level power systems engineer job that works under the general technical direction of more experienced engineers. This position trains in all job duties in its respective discipline and requires a high level of training, direction and review of work. This job is responsible for providing electrical technical engineering for routine projects and maintenance/operation support for gas transmission facilities, including compressor stations, underground storage facilities, pressure limiting and metering stations, etc. including but not limited to: create design criteria, review drawing, issuing protection requirements for station electrical equipment and review electrical clearances.

#### Job Duties
1. Develop and provide engineering review and input on designs, design reviews, calculations, perform calculations and develop engineering and construction documents.
2. Provide “hands on” technical support and advice to maintenance, construction and operations personnel.
3. Ensure all engineering products incorporate industry best practices with an emphasis on safety and compliance with AGA, NEC, NFPA, OSHA and other applicable safety codes and regulations while ensuring a reliable and cost effective end result.
4. Work closely with project managers or act as project engineer to ensure that the designs will meet project electrical requirements.
5. Participate and assist others in root cause analysis of problem, scope of work development, engineering analysis of alternatives, preparation of Design Criteria, cost estimate, overseeing preparation of design drawings and engineering documents, calculations, specifications, commissioning procedures.
6. Assist and collaborate with the field personnel in investigation, troubleshooting, research, and resolution of equipment or system issues.
7. Create sketch and review grounding grid drawing and BOM based on the grounding analysis or criteria.
8. Review hazardous area classification drawing.
11. Participates in FAT (factory acceptance testing) for equipment on projects.
12. Determine/Review the electrical equipment hazardous classification.
13. Conduct short circuit studies, load flow analysis and arc flash analysis.
15. Conduct electrical load analysis to
   a. Size ATS, switchboard/switchgear, generator, battery, UPS, cables, breakers, transformer, fuse, capacitor bank for power factor correction, etc.
   b. Provide protection relay or breaker trip unit settings.
16. Update and maintain records, such as Easypower data base, transformer, Low/Medium Voltage switchboard/switchgear, generator, uninterruptable power supply ‘UPS’, battery, generator, etc.
17. The engineer at this level is also assigned to provide normal and emergency maintenance and operation support. The engineer may perform, but not limited to, the following tasks:
   a. Investigate questionable electrical operations
   b. Review electrical clearance request and provide specific electrical
### ASSOCIATE POWER SYSTEMS ENGINEER (GAS) (51785396)

<table>
<thead>
<tr>
<th>Scope</th>
<th>Resolves problems of limited scope. Assignments typically require standard solutions. Assignments are regularly reviewed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interaction</td>
<td>Will work with internal engineering, operations, construction and maintenance organizations to implement various aspects of the above job requirements.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Knowledge/Abilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Able to apply basic engineering principles and theory</td>
</tr>
<tr>
<td>2. Basic understanding of symmetrical component theory and ability to perform fault calculations and load flow analysis.</td>
</tr>
<tr>
<td>3. Basic knowledge of control circuitry</td>
</tr>
<tr>
<td>4. Effectively communicates both written and orally</td>
</tr>
<tr>
<td>5. Approaches and plans work in an organized manner to meet project commitments</td>
</tr>
<tr>
<td>6. Able to read and understand Operating, Single line, Three lines and Schematic diagrams</td>
</tr>
<tr>
<td>7. Assess and recommend solutions for routine projects.</td>
</tr>
<tr>
<td>8. Basic knowledge of electrical codes &amp; standards such as IEEE, NEC, NFPA, etc.</td>
</tr>
<tr>
<td>9. Basic knowledge of electrical installation in hazardous area requirement.</td>
</tr>
<tr>
<td>10. Basic knowledge of hazardous area classification standards API, AGA, IEC, etc.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Job Qualifications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Education</strong></td>
</tr>
<tr>
<td><strong>Licenses/Certifications</strong></td>
</tr>
<tr>
<td><strong>Experience</strong></td>
</tr>
</tbody>
</table>

### JOURNEY POWER SYSTEMS ENGINEER (GAS) (51785397)

| Summary | This is a journey-level power systems engineer job that requires minimum technical assistant of more experienced engineers. This position requires a moderate level of training, direction and review of work from more senior engineers. This job is responsible for providing electrical technical engineering for routine projects and maintenance/operation support for gas transmission facilities, including compressor stations, underground storage facilities, pressure limiting and metering stations, etc. including but not limited to: create design criteria, review drawing, issuing protection requirements for station electrical equipment and review electrical clearances. |

<table>
<thead>
<tr>
<th>Job Duties</th>
<th>May perform all the functions of Associate Power Systems Engineer and in addition:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Perform basic grounding analysis.</td>
</tr>
<tr>
<td>2.</td>
<td>Handle special and complex projects, such as automatic transfer scheme to tie one or two emergency/standby generator to the utility feed, medium/low voltage switchgear protection design, motor starter/variable speed drive ‘VFD’ design, harmonics analysis, paralleling switchgear scheme, generator excitation and governor controller determination.</td>
</tr>
<tr>
<td>3.</td>
<td>Participate in development of design standards and new tools.</td>
</tr>
<tr>
<td>4.</td>
<td>Evaluate innovative and practical design solutions for the project with a focus on cost reductions, safety and reliability.</td>
</tr>
<tr>
<td>5.</td>
<td>Provide technical guidance for various codes interpretation and compliance.</td>
</tr>
<tr>
<td>7.</td>
<td>With appropriate training, may lead low complexity PHA’s and PSSR’s for</td>
</tr>
</tbody>
</table>
### Journey Power Systems Engineer (Gas) (51785397)

assigned projects.

<table>
<thead>
<tr>
<th>Scope</th>
<th>Resolves problems of moderate scope and complexity. Assignments typically require standard solutions. Under general direction, independently plans work to meet assigned objectives; progress is reviewed periodically for technical accuracy and adequacy in process and upon completion.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interaction</td>
<td>To implement various aspects of the above job requirements, will work with internal engineering, operations, station construction and maintenance organizations with various levels of personnel to obtain cooperation, persuade, exchange and/or provide information. May attend meetings representing the group to meet job duties. External contacts limited primarily to obtaining and providing information to vendors, manufacturers and consultants on moderately routine issues.</td>
</tr>
</tbody>
</table>

| Knowledge/Abilities | 1. Takes ownership of problems and their solutions  
2. Knowledge of symmetrical component theory and ability to perform fault calculations and load flow analysis  
3. Knowledge of electromagnetic interference ‘EMI’ between power line and gas pipeline  
4. Knowledge of EMI, touch and step potential mitigation procedure  
5. Knowledge of Easypower software or equivalent  
6. Knowledge of Arc flash standards and requirement  
7. Knowledge of control circuitry  
8. Effectively communicates both written and orally  
9. Approaches and plans work in an organized manner to meet project commitments  
10. Able to read and understand Operating, Single line, Three lines and Schematic diagrams  
11. Assess and recommend solutions for routine projects.  
12. Knowledge of electrical codes & standards such as IEEE, NEC, NFPA, etc.  
13. Knowledge of electrical installation in hazardous area requirement.  
14. Knowledge of hazardous area classification standards API, AGA, IEC, etc. |

<table>
<thead>
<tr>
<th>Job Qualifications</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Education</strong></td>
<td>A 4-year BS Degree in Electrical Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US.</td>
</tr>
<tr>
<td><strong>Licenses / Certifications</strong></td>
<td>Current and active California Electrical PE license desired.</td>
</tr>
<tr>
<td><strong>Experience</strong></td>
<td>Mastery of the associate power systems engineer job duties in respective discipline and demonstrated knowledge and ability to perform the basic duties of the Journey Power Systems Engineer. Meets specific technical requirements gained through a minimum of three years of cumulative experience in the field of electrical distribution system.</td>
</tr>
</tbody>
</table>

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### Senior Power Systems Engineer (Gas) (51785398)

**Summary**

This is a senior- level power systems engineer job that requires mastery of the journey engineer job duties and is responsible for complex electrical system design. This position requires a low level of training, direction and review of work from more senior engineers. This job is responsible for providing electrical technical engineering for routine projects and maintenance/operation support for gas transmission facilities, including compressor stations, underground storage facilities, pressure limiting and metering stations, etc. including but not limited to: create design criteria, review drawing, issuing protection requirements for station electrical equipment and review electrical clearances.

**Job Duties**

May perform all the functions of Associate and Journey Power Systems Engineer and in addition:

1. Mentor lower level engineers.
### SENIOR POWER SYSTEMS ENGINEER (GAS) (51785398)

<p>| | |</p>
<table>
<thead>
<tr>
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<th></th>
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</thead>
<tbody>
<tr>
<td>2.</td>
<td>Perform complex grounding analysis.</td>
</tr>
<tr>
<td>3.</td>
<td>Coach, direct, and assist technical employees and teams. May act as team leader</td>
</tr>
<tr>
<td>4.</td>
<td>Performs root cause analysis and makes recommendations to address local and system-wide implications under emergencies.</td>
</tr>
<tr>
<td>5.</td>
<td>Review and comment on new design standards.</td>
</tr>
<tr>
<td>6.</td>
<td>Identify and resolve standards deficiencies and recommend standards upgrades.</td>
</tr>
</tbody>
</table>

**Scope**

Resolves problems of complex scope. Assignments may provide an opportunity for creative or non-standard approaches. Under general direction, independently plans work to meet assigned general objectives. Work may be reviewed upon completion; solution may provide an opportunity for creative/non-standard approaches.

**Interaction**

To implement various aspects of the above job requirements, will work with all levels of personnel to obtain cooperation, persuade, exchange and/or provide information. Lead and/or attend meetings representing the group to perform job duties. External contacts limited primarily to obtaining, exchanging and providing information to manufacturers and consultants. May participate in professional affiliations (i.e. CEATI, IEEE) to keep abreast of new industry trends, developments and procedures. May represent the company on committees.

**Knowledge/Abilities**

1. Takes ownership of problems and their solutions
2. Ability to calculate relay settings for all station automatics schemes, transformer bank protection, bus protection, generator protection, and motor protection.
3. Able to work with moderate supervision and guidance to meet project commitments, both independently and/or as a member of a team
4. Knowledge of CDEGS grounding software or equivalent
5. Able to understand and implement the technical requirements of interfacing engineering disciplines
6. Demonstrates informed judgment when making decisions and recommendations
7. Uses independent judgment in applying engineering principles and techniques to determine cost effective and practical solutions
8. Ability to manage and complete numerous non-conflicting projects concurrently
9. Interprets applicable codes, industry standards and regulations and educates others
10. Can provide thorough analysis of issues and justification of recommendations
11. Takes ownership of problems and their solutions

**Job Qualifications**

**Education**

A 4-year BS Degree in Electrical Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US.

**Licenses/Certifications**

Current and active California Electrical PE license desired.

**Experience**

Mastery of the associate and journey power systems engineer job duties in respective discipline and demonstrated knowledge and ability to perform the basic duties of the Senior Power Systems Engineer. Meets specific technical requirements gained through a minimum of eight years of cumulative experience in the field of electrical distribution system.

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### SENIOR CONSULTING POWER SYSTEMS ENGINEER (GAS) (51785399)

**Summary**

This is a senior consulting-level power systems engineer job that requires mastery of the senior engineer job duties. This job is responsible for providing electrical technical engineering for routine and complex projects and maintenance/operation support for gas transmission facilities, including compressor stations, underground storage...
### Senior Consulting Power Systems Engineer (GAS) (51785399)

**Job Duties**
May perform all the functions of Associate, Journey and Senior Power Systems Engineer and in addition:
1. Mentor lower level engineers.
2. Perform highly complex grounding interference analysis.
3. Represent PG&E at external industry associations, committees, trade organizations and other inter-utility groups
4. Develop innovative solutions to solve challenging technical issues
5. Act as team leader
6. Perform complex root cause analysis and makes recommendations to address local and system-wide implications under emergencies
7. Lead creation of new design standards

**Scope**
Resolves problems of complex scope. Serves as a key technical resource within gas electrical system. Regularly expected to apply creativity or new approaches to assignments that may be unique. May receive technical guidance from Principal engineers. May lead others on technically complex projects. Under general direction of supervisor, plans work to meet general objectives. Work may be reviewed upon completion; solution often provides an opportunity for creative/non-standard approaches.

**Interaction**
Internal contacts include project team members, managers and directors across various departments. Serves as the most senior technical expert on the team. External contacts limited primarily to obtaining, exchanging and providing information to manufacturers and consultants on non-routine issues. Participates in professional affiliations (i.e. CEATI, IEEE) to keep abreast of new industry trends, developments and procedures. May represent the company on committees. Often is a technical coach for others.

**Knowledge/Abilities**
1. Demonstrate expert knowledge and abilities in electrical distribution system
2. Able to handle multiple large and complex projects without little or no supervision and serve as team leader
3. Experience of CDEGS grounding software or equivalent
4. Demonstrate excellent presentation skills including knowledge transfer presentations. And Provide leadership, direction, and assistance to engineers.
5. Coach and develop other lower level engineers routinely.

**Job Qualifications**

<table>
<thead>
<tr>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>A 4-year BS Degree in Electrical Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Licenses/Certifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current and active California Electrical PE license required for Sr. Consulting Engineer.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mastery of the associate, journey and senior power systems engineer job duties in respective discipline and demonstrated knowledge and ability to perform the basic duties of the Senior Consulting Power Systems Engineer. Meets specific technical requirements gained through a minimum of thirteen years of cumulative experience in the field of electrical distribution system.</td>
</tr>
</tbody>
</table>

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### Principal Power Systems Engineer (Gas) (51785463)

**Summary**
This is a principal-level power systems engineer job that requires mastery of the senior consulting engineer job duties. This job is responsible for providing electrical technical engineering for routine and complex projects and maintenance/operation support for gas transmission facilities, including compressor stations, underground storage facilities, pressure limiting and metering stations, etc. including but not limited to: create design criteria, review drawing, issuing protection requirements for station electrical
<table>
<thead>
<tr>
<th><strong>Principal Power Systems Engineer (GAS)</strong> (51785463)</th>
</tr>
</thead>
<tbody>
<tr>
<td>equipment and review electrical clearances. Provide technical leadership and coaching.</td>
</tr>
</tbody>
</table>

**Job Duties**
May perform all the functions of Associate, Journey, Senior and Senior Consulting Power Systems Engineer and in addition:

1. Lead large highly complex (multi-discipline, multi-group) projects and performs technical analyses, studies, and develops conceptual solutions.
2. Mentor lower level engineers.
3. Perform highly complex grounding interference analysis.
4. Provide high level system review for projects and corporate initiatives which may span across multiple organization and business units in the PG&E corporate enterprise.
5. Provide long term vision for applying existing and emerging technology to accomplish safe, reliable and affordable engineering design for construction and maintenance.
6. Collaborate with industry to develop technology and products which would benefit PG&E while adhering to national and international standards such as ISA and IEC for multi-vendor support.

**Scope**
Resolves problems of complex scope. Serves as a key technical resource within gas electrical system. Regularly expected to apply creativity or new approaches to assignments that may be unique. Leads others on technically complex projects. Under general direction of supervisor, plans work to meet general objectives. Work may be reviewed upon completion; solution often provides an opportunity for creative/non-standard approaches.

**Interaction**
Internal contacts include project team members, managers and directors across various departments. Serves as the most senior technical expert on the team. External contacts limited primarily to obtaining, exchanging and providing information to manufacturers and consultants on non-routine issues. Participates in professional affiliations (i.e. CEATI, IEEE) to keep abreast of new industry trends, developments and procedures. May represent the company on committees. Often is a technical coach for others.

**Knowledge/Abilities**
1. Demonstrate expert knowledge and abilities in electrical distribution system
2. Able to handle multiple large and complex projects without little or no supervision and serve as team leader
3. Experience of CDEGS grounding software or equivalent
4. Demonstrate excellent presentation skills including knowledge transfer presentations. And Provide leadership, direction, and assistance to engineers.
5. Coach and develop other lower level engineers routinely.

**Job Qualifications**

<table>
<thead>
<tr>
<th><strong>Education</strong></th>
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</thead>
<tbody>
<tr>
<td>A 4-year BS Degree in Electrical Engineering or a related technical discipline from an accredited curriculum in the US or the equivalent from outside the US.</td>
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</table>

<table>
<thead>
<tr>
<th><strong>Licenses/Certifications</strong></th>
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</thead>
<tbody>
<tr>
<td>Current and active California Electrical PE license required.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Experience</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mastery of the associate, journey and senior power systems engineer job duties in respective discipline and demonstrated knowledge and ability to perform the basic duties of the Principal Power Systems Engineer. Meets specific technical requirements gained through a minimum of fifteen years of cumulative experience in the field of electrical distribution system.</td>
</tr>
</tbody>
</table>
## SOURCING QUALITY INSPECTION ENGINEERS

### SOURCING QUALITY INSPECTION ENGINEER, JOURNEY (52232199)

<table>
<thead>
<tr>
<th>Summary</th>
<th>The Journey level engineer job is responsible for hands-on source inspection of gas, electric or power generation equipment at domestic and international supplier locations. This position requires up to 75% travel time (domestic and international) annually.</th>
</tr>
</thead>
</table>
| Job Duties: | 1. Performs source inspections (witnessing key tests & inspecting the equipment for acceptable workmanship) for equipment and materials at supplier factories, communicates any deviations and works to resolve deviations to the supplier and the PG&E Responsible Engineer, and writes up results in an inspection report. Follows up with the supplier to verify completion of any necessary corrective actions.  
2. Reviews vendor production/approval drawings and verifies conformity to PG&E specification and actual as-built.  
3. Writes up result in an inspection report and then issues to the SQA admin team. Upon request, reviews critical manufacturing processes of manufacturer facilities to support qualifications of suppliers. Analyzes the information gathered and makes a recommendation regarding the manufacturing process. Documents the results in a thorough report.  
4. Generates and reviews Quality Notifications (QN’s) including Material Problem Reports (MPRs) and Supplier Corrective Actions Requests (SCARs).  
5. Coordinates inspection schedules for orders at assigned supplier plants and other assigned purchase orders. Provides the required inspection information to the backup inspector, if necessary.  
6. Works with other Quality Engineers in the Supplier Quality group and works with PG&E Responsible Engineers to develop technical knowledge regarding various types of major equipment.  
7. Develops quality auditing skills through a combination of classroom training and on the job training.  
8. Drafts new procedures when required under oversight. |
| Scope | Performs inspection of moderate complexity gas, electrical or Power generation products. Assignments are regularly reviewed. Generally, works independently with limited feedback from other engineers and supervisor. Demonstrates increasing technical and communication skills. |
| Interaction | Work sometimes requires direction from more senior engineers and the supervisor. Work internally with SQA, Sourcing and Engineering team members to resolve quality concerns and implement process improvements at vendor locations. Works externally with vendors and third parties to perform inspections. May be assisted by Supplier Quality Engineers (SQE) in conducting supplier visits or supplier follow-up, when the following conditions are met:  
1. It is an issue that requires a site visit and the SQE was already planning to visit the site; and  
2. It is not affordable for the Auditor/Inspector to travel to the site; and,  
3. The SQE is qualified to perform the duties required, as determined by management. |
| Knowledge / Abilities | 1. Ability to read standards and drawings and make reasoned judgments on the “quality of the designs”  
2. Knowledge of a mature ISO-9000 system  
4. Ability to follow safety practices of PG&E and supplier plant locations |
5. Ability to understand and apply PG&E specification as they apply to purchase order requirement.
6. Ability to understand and apply various industry standard related to equipment being inspected
7. A strong mechanical, electrical and manufacturing QA/QC aptitude.
8. Knowledge to use various gages to verify conformity
9. Ability to travel to various material supplier locations to perform inspections with minimum 10 business days inspection notification for North America and 15 business days for international.
10. Ability to work with software and databases to pull reports including SAP, Access and Excel
11. Able to communicate readily with others both verbal and written
12. Ability to make reasoned decisions regarding part and system compliance when drawings are not clear
13. Knowledge of variety of non-destructive testing and basic electrical and mechanical inspection techniques.
14. Knowledge of a mature Supplier Quality and Procurement systems and processes and the ability to work closely with Engineering and Procurement personnel to achieve supplier qualification and improvements.
15. Knowledge of a variety of manufacturing processes and good internal business controls and procedures
16. Ability to demonstrate application of “root cause analysis” in working with supplier problems.
17. Ability to work in a rapid pace environment with incomplete information; making decisions about hardware while juggling multiple problems and tasks

### Job Qualifications:

| Education | A 4-year BS Degree in Electrical, Civil, Mechanical or other related Engineering degree as appropriate from an accredited curriculum in the US or the equivalent from outside the US. |
| Experience | Demonstrated knowledge and ability to perform the basic duties of the Journey Level Engineer. Meets specific technical requirements gained through a minimum of three years of applicable industry experience. |
| Desired Experience | • Experience working in a manufacturing environment with “hands-on” experience inspecting or dispositioning defective materials.  
• Auditing experience  
• Utility experience. Knowledge of electrical substation, transmission, and hydro generation or gas distribution/transmission equipment  
• Lean 6 sigma experience. Knowledge of six sigma quality systems and experience leading Lean Six Sigma events with either internal personnel or with suppliers. Green Belt or equivalent training |

### SOURCING QUALITY INSPECTION ENGINEER, SENIOR (52232200)

| Summary | The Senior level engineer job requires mastery of the Journey level engineer skills and duties. The position is responsible for hands-on source inspection of gas, electric or power generation equipment at domestic and international supplier locations. This position requires up to 75% travel time (domestic and international) annually. |
| Job Duties: | May perform functions of Journey level Engineers and in addition:  
1. Assists Quality Inspection Engineers that are new to the Supplier Quality group.  
2. May represent Supplier Quality on PG&E major equipment teams. |
3. Performs periodic targeted surveillance inspections at key supplier factories deemed critical by the Supplier Quality staff such as recent quality problems, changes at the factory since the last surveillance inspection, and known critical processes for the products involved under the guidance of more senior engineer. Writes or contributes to document the results thorough the surveillance inspection reports.

4. Analyzes quality performance data, such as test failure rates, defect trends, and specification deviation trends.

5. Provides technical recommendations to SQE’s to aid in development of source inspection checklist.

6. Provides technical recommendations to Standards engineers to improve PG&E specification and reviews new/revised specification prior to release.

**Scope**

| Performs inspection of highly complex gas, electrical or Power generation products. May need to inspect products that don’t have defined inspection plan. Works independently with limited feedback from other engineers and supervisor. |

**Interaction**

<table>
<thead>
<tr>
<th>Work sometimes requires direction from more senior engineers and the supervisor. Work internally with SQA, Sourcing and Engineering team members to resolve quality concerns and implement process improvements at vendor locations. Works externally with vendors and third parties to perform inspection. May be assisted by Supplier Quality Engineers (SQE) in conducting supplier visits or supplier follow-up, when the following conditions are met:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. It is an issue that requires a site visit and the SQE was already planning to visit the site; and</td>
</tr>
<tr>
<td>2. It is not affordable for the Auditor/Inspector to travel to the site; and,</td>
</tr>
<tr>
<td>3. The SQE is qualified to perform the duties required, as determined by management.</td>
</tr>
</tbody>
</table>

**Knowledge / Abilities**

| 1. Ability to read standards and drawings and make reasoned judgments on the "quality of the designs" |
| 2. Knowledge of a mature ISO-9000 system |
| 4. Ability to follow safety practices of PG&E and supplier plant locations |
| 5. Ability to understand and apply PG&E specification as they apply to purchase order requirement. |
| 6. Ability to understand and apply various industry standard related to equipment being inspected |
| 7. A strong mechanical, electrical and manufacturing QA/QC aptitude. |
| 8. Knowledge to use various gages to verify conformity |
| 9. Ability to travel to various material supplier locations to perform inspections with minimum 10 business days inspection notification for North America and 15 business days for international. |
| 10. Ability to work with software and databases to pull reports including SAP, Access and Excel |
| 11. Able to communicate readily with others both verbal and written |
| 12. Ability to make reasoned decisions regarding part and system compliance when drawings are not clear |
| 13. Knowledge of variety of non-destructive testing and basic electrical and mechanical inspection techniques. |
| 14. Knowledge of a mature Supplier Quality and Procurement systems and processes and the ability to work closely with Engineering and Procurement personnel to achieve supplier qualification and improvements |
| 15. Knowledge of a variety of manufacturing processes and good internal business controls and procedures |
| 16. Ability to demonstrate application of "root cause analysis" in working with supplier problems. |
| 17. Ability to work in a rapid pace environment with incomplete information; making decisions about hardware while juggling multiple problems and tasks. |
18. Proven ability to pull together and lead cross-functional teams to solve discrete problems and systems problems as they are defined

**Job Qualifications:**

**Education**
A 4-year BS Degree in Electrical, Civil, Mechanical or other related Engineering degree as appropriate from an accredited curriculum in the US or the equivalent from outside the US.

**Licenses / Certifications**
Desired: American Society of Quality - Certified Quality Inspector (CQI) certificate.

**Experience**
Mastery of the Journey Level Engineer job duties and demonstrated knowledge and ability to perform the basic duties of the Senior Level Engineer. Meets specific technical requirements gained through a minimum of five years of work experience in electrical or gas equipment, supplier quality, inspection, project engineering, and/or manufacturing environment.

**Desired Experience**
- Experience working in a manufacturing environment with "hands-on" experience inspecting or dispositioning defective materials.
- Auditing experience
- Utility experience. Knowledge of electrical substation, transmission, and hydro generation or gas distribution/transmission equipment.
- Lean 6 sigma experience. Knowledge of six sigma quality systems and experience leading Lean Six Sigma events with either internal personnel or with suppliers. Green Belt or equivalent training
- Lead Auditor training
- Experience in building supplier relationships

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**SOURCING QUALITY INSPECTION ENGINEER, SENIOR ADVISING (52232276)**

**Summary**
The Senior Advising level engineer job requires mastery of the Senior level engineer skills and duties. The position is responsible for hands-on source inspection of gas, electric or power generation equipment at domestic and international supplier locations. This position requires up to 75% travel time (domestic and international) annually.

**Job Duties:**
May perform functions of Senior Engineers and in addition:
1. Considered a subject matter expert on several types of major equipment and inspections.
2. Drafts new or edits existing procedures or processes and manages them through the approval process to completion.

**Scope**
Performs inspection of highly complex gas, electrical or Power generation products. May need to inspect products that don’t have defined inspection plan. Works independently with limited feedback from other engineers and supervisor. Expected to apply creative solutions, techniques and approaches to work assignments. Customarily and regularly uses discretion and independent judgment in fulfilling these job functions.

**Interaction**
Assist lower classification engineers and works with the supervisor. Internally establish good relations with LOB’s to establish standards. Work externally with vendors to establish good relations and drive improvements at their locations. May be assisted by Supplier Quality Engineers (SQE) in conducting supplier visits or supplier follow-up, when the following conditions are met:
1. It is an issue that requires a site visit and the SQE was already planning to visit the site; and
2. It is not affordable for the Auditor/Inspector to travel to the site; and,
3. The SQE is qualified to perform the duties required, as determined by management.
## ASSOCIATE SUPPLIER QUALITY ENGINEER (52232191)

### Summary
The Associate level engineer job works under the general technical direction of more experienced engineers and/or supervisor. This position is responsible for providing guidance and managing assigned supplier quality duties. Participates in focused, quality driven data analysis projects in the continuous support of Quality Improvement and the reduction of cost of poor quality. The responsibility level of this position increases with experience. Note: this position requires up to 25% travel time (domestic and international).

### Job Duties:
Depending on previous experience, initial assignments from the tasks below will require direction and supervision; with experience, the independence and responsibility will expand and the need for supervision will decrease:
1. Participates in Quality Audits of suppliers
2. Writes or contributes to supplier visit reports
3. Participates in supplier quality reviews with procurement and more senior members of quality staff
4. Assists in the gathering of information or data for submittal to regulatory agencies.
5. Prepares notes for documenting process flows and control points.
6. Performs basic analysis as directed (Graphs, Flowcharts, Pareto Charts, Histograms, Run Charts, etc.).
7. Prepares metrics monthly reports
8. Prepares and reviews SCARS for suppliers
9. Prepares inspection plans for materials
10. Trains and interfaces with inspectors
11. Reviews MPR’s and dispositions less complex MPR’s
12. Assist in, edit or draft procedures with oversight
13. Prepares presentations for quality team
14. Work with suppliers on process changes or functional changes or quality issues (with oversight of more senior quality engineers or supervisor/managers).
15. Shall work in accordance with all Supplier Quality Standards and Procedures in addition to any applicable corporate procedures and standards.

### Scope
Resolves problems of limited scope and complexity. Assignments are regularly reviewed. As experience increases, greater independence of judgment is expected with respect to standard solution problems.

### Interaction
Work typically requires direction from more senior engineers and the supervisor. Interaction with Suppliers should be accompanied with a more senior engineer until comfortable with processes. Attends selected trade and association meetings as approved by leadership. May be assisted by Source Inspectors or Auditors in conducting supplier visits or supplier follow-up, when the following conditions are met:
   1. it is an issue that requires a site visit and the Auditor/Inspector was already planning to visit the site; and
   2. it is not affordable for the SQE to travel to the site; and
   3. the Auditor/Inspector is qualified to perform the duties required, as determined by management.

### Knowledge / Abilities
1. Able to apply basic engineering principles and theory.
2. Able to apply basic problem solving and process evaluation
3. Assess and recommend solutions for routine projects.
4. Effective written and oral communications.
5. Prioritize, plan and perform assigned work in an organized manner.
6. Demonstrates good judgment.
7. Shows initiative and is proactive.

### Job Qualifications:
#### Education
A 4-year BS Degree in Electrical, Civil, Mechanical or other related Engineering degree as appropriate from an accredited curriculum in the US or the equivalent from outside the US.

#### Licenses / Certifications

#### Experience
| **Summary** | The Journey level engineer job requires mastery of an Associate Engineer skills and duties. The position is responsible for providing guidance and managing assigned supplier quality duties. Handles complex problems, issues and addresses special projects. Participates in focused, quality driven data analysis projects in the continuous support of Quality Improvement and the reduction of cost of poor quality. The responsibility level of this position increases with experience. Note: this position requires up to 25% travel time (domestic and international). |
| **Job Duties:** | May perform all duties of the Associate Engineer and in addition: 1. Identifies problems suppliers and documents supplier visits in well-written reports and action lists. Manages action items in conjunction with supplier. 2. Responsible for driving DPPM (Defective Parts per Million) on a targeted downward trend for their assigned commodities by identification of problems and concerted work with key suppliers. 3. Issues and reviews SCARs (Supplier Corrective Action Requests) for their assigned suppliers. Responsible for ensuring action completion including management of long term process enhancement projects. 4. Drafts procedures or new processes and manages them through the approval process to completion with little supervision. 5. Collects, analyzes, charts and presents metrics related to suppliers. 6. Implements quality improvements, process mapping, process validations, software validations, production efficiency improvements, and process controls based on trend analysis. 7. Knows key issues in the supplier’s commodity and works through others to solve problems and improve their processes. 8. Leads basic cross functional projects involving safety issues or other quality concerns. 9. Assist with the development of internal quality control inspections and implementation of appropriate measurement methods and test equipment. 10. Identifies system problems and opportunities for enhanced processes and with some support will drive cross functional improvements to completion. 11. Manages the closure of a large volume of defect reports (Material Problem Reports - MPR’s) and supplier SCAR’s, and ensures accuracy, timeliness, and the correct actions were taken. 12. Reviews defective materials with inspectors and Standards Engineers and others to understand failure modes and causal factors. 13. Supports the development and the testing of the SAP architecture for a Quality Management System. 14. Reviews a wide variety of hardware (cable, power electrical equipment, pipe, structures) for technical compliance to drawings. 15. Provides training as required to internal or external personnel. May create training materials to support that training. 16. Shall work in accordance with all Supplier Quality Standards and Procedures in addition to any applicable corporate procedures and standards. |
| **Scope** | Resolves problems of moderate scope. Generally works independently with limited feedback from other engineers and supervisor. Demonstrates increasing technical and communication skills. |
| **Interaction** | Work sometimes requires direction from more senior engineers and the supervisor. Works with internal and external personnel. Significant external contact with vendors, PG&E contractors and customers. Governmental contacts only as assigned by supervisor. Attends selected trade and association meetings as approved by leadership. May be assisted by Source Inspectors or Auditors in conducting supplier visits or supplier follow-up, when the following conditions are met: 1. it is an issue that requires a site visit and the Auditor/Inspector was already planning to visit the site; and 2. it is not affordable for the SQE to travel to the site; and 3. the Auditor/Inspector is qualified to perform the duties required, as determined by management. |
4. Knowledge of a mature Supplier Quality and Procurement systems and processes and the ability to work closely with Engineering and Procurement personnel to achieve supplier qualification and improvements
5. Knowledge of a variety of manufacturing processes and good internal business controls and procedures
6. Ability to demonstrate application of "root cause analysis" in working with supplier problems
7. Ability to make reasoned decisions regarding part and system compliance when drawings are not clear
8. Ability to work in a rapid pace with incomplete information; making decisions about products while juggling multiple problems and tasks
9. Knowledge of variety of non-destructive testing and basic electrical and mechanical inspection techniques

Job Qualifications:

| Education | A 4-year BS Degree in Electrical, Civil, Mechanical or other related Engineering degree as appropriate from an accredited curriculum in the US or the equivalent from outside the US. |
| Licenses / Certifications | Desired:  ● American Society of Quality – Certified Quality Engineer  ● Lean Six Sigma Green Belt |
| Experience | Mastery of the Associate level Engineer job duties or equivalent and demonstrated knowledge and ability to perform the basic duties of the Journey level Engineer. Meets specific technical requirements gained through a minimum of 3 years of work experience in a supplier quality and/or manufacturing environment. |

SENIOR SUPPLIER QUALITY ENGINEER (52232193)

The Senior level engineer job requires mastery of the Journey level engineer skills and duties. This position is responsible for providing technical standards, strategy and implementation support for assigned supplier quality duties. Handles complex problems and issues. Leads focused quality driven data analysis projects in the continuous support of Quality Improvement and the reduction of cost of poor quality. Note: this position requires up to 25% travel time (domestic and international).

May perform functions of Journey level Engineers and in addition:
1. Develops internal quality control inspections and implementation of appropriate measurement methods and test equipment.
2. Leads complex cross functional projects involving safety issues or other quality concerns
3. Identifies and implements system problems and opportunities for enhanced processes and drive cross functional improvements to completion
4. Performs root cause analysis and identifies linkages to business objectives.
5. Designs, reviews, and/or approves verification and validation strategy, protocols, and testing. (e.g.: part qualification, and supplier change request processes)
6. Communicates results to various levels of management and follow-up on corrective action activities.
7. Recognize and respond to opportunities to improve work product and process to move the organization forward.
8. Supports the development of the SAP architecture for a Quality Management System. Supports testing of that system and training of peers, inspectors and Engineers.
9. Communicates and convinces peers and other functional team members in writing and spoken conversation to take actions in keeping with support of good supplier management systems.
10. Prepares written presentations on quality related subject matter and presents to management personnel and peers.
11. Develops and generates metrics to rate suppliers, and shares and explains metrics to suppliers.
12. Shall work in accordance with all Supplier Quality Standards and Procedures in addition to any applicable corporate procedures and standards.

Scope | Resolves problems of complex scope. Assignments may require complex solutions. Works independently with limited feedback from other engineers and supervisor. |
Interaction | Work sometimes requires direction from more senior engineers and the supervisor. Works with internal and external personnel. External contacts include vendors, PG&E contractors, customers and regulatory agencies. May be assisted by Source Inspectors or Auditors in conducting supplier visits or supplier follow-up, when the following conditions are met: 1. it is an issue that requires a site visit and the Auditor/Inspector was already planning to visit the site; and 2. it is not affordable for the SQE to travel to the site; and |
3. the Auditor/Inspector is qualified to perform the duties required, as determined by management.

| Knowledge / Abilities | 1. Ability to read standards and drawings and make reasoned judgments on the “quality of the designs”  
2. Knowledge of a mature ISO-9001 system  
4. Knowledge of a mature Supplier Quality and Procurement systems and processes and the ability to work closely with Engineering and Procurement personnel to achieve supplier qualification and improvements  
5. Knowledge of a variety of manufacturing processes and good internal business controls and procedures  
6. Ability to demonstrate application of “root cause analysis” in working with supplier problems  
7. Ability to make reasoned decisions regarding part and system compliance when drawings are not clear  
8. Ability to work in a rapid pace with incomplete information; making decisions about hardware while juggling multiple problems and tasks  
9. Proven ability to pull together and lead cross-functional teams to solve discrete problems and systems problems as they are defined  
10. Knowledge of variety of non-destructive testing and basic electrical and mechanical inspection techniques |

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**Education**
A 4-year BS Degree in Electrical, Civil, Mechanical or other related Engineering degree as appropriate from an accredited curriculum in the US or the equivalent from outside the US. MS in Engineering desired.

**Licenses / Certifications**
Desired:  
- Lean Six Sigma Black Belt  
- American Society of Quality – Certified Quality Engineer

**Experience**
Mastery of the Associate and Journey level Engineer job duties and demonstrated knowledge and ability to perform the basic duties of the Senior level Engineer. Meets specific technical requirements gained through a minimum of 8 years of work experience in a supplier quality and/or manufacturing environment.

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**SENIOR ADVISING SUPPLIER QUALITY ENGINEER (52232194)**

**Summary**
The Senior Advising level engineer job requires mastery of the Senior level engineer skills and duties. This position is responsible for providing technical standards, strategy and implementation support for assigned supplier quality duties. Handles highly complex problems and issues. Leads focused, quality driven data analysis projects in the continuous support of Quality Improvement and the reduction of cost of poor quality. The Senior Advising Engineer is a recognized expert within their area of responsibility, identifies opportunities and brings in ideas to help improve company performance and applies extensive knowledge of concepts, principles, and practices to resolve complex problems with only general direction. Note: this position requires up to 25% travel time (domestic and international).

**Job Duties:**
May perform functions of Senior Engineers and in addition:
1. Represents Supplier Quality Assurance across functional boundaries within PG&E.  
2. Attends meetings with a variety of levels of employees, including executives, customers and suppliers and can lead actions and identify key engagement points for supplier quality and acts to drive those engagements to a successful conclusion  
3. Identifies root cause problems, derives solutions for those problems, and leads a multi-disciplinary team to form a solution.  
4. Leads other Engineers through complex technical and business issues to complex technical or political issues with minimal direction or oversight.  
5. Creates new procedures or new processes that cross functional boundaries as needed and manages them through the approval process to completion with little or no supervision.  
6. Responds to key issues in the supplier’s commodity and works to solve problems and improve their processes.  
7. Develops and generates metrics to rate suppliers, and shares and explains metrics to suppliers.  
8. Shall work in accordance with all Supplier Quality Standards and Procedures in addition
to any applicable corporate procedures and standards.

**Scope**

Resolves problems of complex scope. Assignments may require complex solutions. Works independently with limited feedback from supervisor. Expected to apply creative solutions, techniques and approaches to work assignments. Customarily and regularly uses discretion and independent judgment in fulfilling these job functions.

**Interaction**

Assists lower classification engineers and works with the supervisor. Externally, establishes and maintains good relations with counterparts and higher level representatives in third party organizations, e.g., governmental, regulatory, business partner or community entities, using skilled negotiation, tact and diplomacy. Internal contacts include project team members and company management across various departments. May have specialized technical expertise and provides information and training as appropriate in the assigned specialized area. May be assisted by Source Inspectors or Auditors in conducting supplier visits or supplier follow-up, when the following conditions are met:

1. it is an issue that requires a site visit and the Auditor/Inspector was already planning to visit the site; and
2. it is not affordable for the SQE to travel to the site; and
3. the Auditor/Inspector is qualified to perform the duties required, as determined by management.

**Knowledge / Abilities**

1. Ability to read standards and drawings and make reasoned judgments on the “quality of the designs”
2. Expert technical knowledge of the products he or she is responsible for
3. Knowledge of a mature ISO-9001 system
5. Knowledge of a mature Supplier Quality and Procurement systems and processes and the ability to work closely with Engineering and Procurement personnel to achieve supplier qualification and improvements
6. Knowledge of a variety of manufacturing processes and good internal business controls and procedures
7. Ability to demonstrate application of “root cause analysis” in working with supplier problems
8. Ability to make reasoned decisions regarding part and system compliance when drawings are not clear
9. Ability to work in a rapid pace with incomplete information; making decisions about hardware while juggling multiple problems and tasks
10. Proven ability to pull together and lead cross-functional teams to solve discrete problems and systems problems as they are defined
11. Knowledge of variety of non-destructive testing and basic electrical and mechanical inspection techniques

**Job Qualifications:**

**Education**

A 4-year BS Degree in Electrical, Civil, Mechanical or other related Engineering degree as appropriate from an accredited curriculum in the US or the equivalent from outside the US. MS in Engineering desired.

**Licenses / Certifications**

Desired:
- Lean Six Sigma Black Belt
- American Society of Quality – Certified Quality Engineer

**Experience**

Mastery of the Associate, Journey and Senior level engineer job duties and demonstrated knowledge and ability to perform the basic duties of the Senior Advising Engineer. Meets specific technical requirements gained through a minimum of 13 years of work experience in a supplier quality and/or manufacturing environment
# GAS PROCESS SAFETY ENGINEERING

## GAS PROCESS SAFETY ENGINEER, ASSOCIATE (52218592)

### Summary
This is an associate-level engineer job that works under the general technical direction of more experienced engineers. Depending on previous experience with process safety, engineers in this position will gain and enhance a basic understanding of Process Safety Management (PSM) principles. Uses independent judgment in applying process safety principles, working with close supervision. Works with engineers, project managers, construction personnel, and other business partners in assessing process safety needs.

### Job Duties:
Depending on previous process safety experience, initial assignments from the tasks below will require direction and supervision; with experience, the independence and responsibility will expand and the need for supervision will decrease.

1. Interface with a variety of stakeholders to provide and instill process safety rigor to ongoing activities, programs, and guidance documents (non-exclusive)
2. Facilitate Simple to Moderate Process Hazard Analyses (PHA’s) (note: other Engineers such as Project Engineers also may facilitate these)
3. Act as a PHA Scribe per team’s PHA Guidelines document (note: other Engineers also may scribe for Simple to Moderate PHA’s)
4. Participate in Pre-Startup Safety Reviews (PSSR’s)
5. Participate in facility internal or external audits
6. Participate in Layers of Protection Analysis (LOPA) study to calculate the safety integrity level of a safeguard
7. Assist in simple likelihood/consequence analysis calculations
8. Assist with data gathering, interviews, scribing, and report writing for Apparent Cause Evaluations (ACE’s) and Root Cause Evaluations (RCE’s). (note: not all ACE’s involve Process Safety Engineers)
9. Gather appropriate data for development of Process Safety metrics
10. Assist with development of Process Safety training
11. Participate in process safety culture assessments and assist with improvement activities
12. Assist with assessing Change Control effectiveness
13. Identify and verify pressure relief valve sizing cases, flare system sizing cases and calculate PRV and/or flare system sizes when deemed necessary (note: other groups may perform this work)
14. Participate in Hazard identification (HAZID), Inherently Safe Design (ISD) studies, and other Hazard Identification and Risk Analysis (HIRA) studies.
15. Identify specific human factors/facility siting issues in assessing hazards and identifying safeguards, incorporating input from all other team members

### Scope
Resolves problems of basic to moderate scope. Assignments typically require standard solutions. Under general direction, independently plans work to meet assigned objectives; progress is reviewed periodically for technical accuracy and adequacy in process and upon completion.

### Interaction
Interacts with Process Safety stakeholders including but not limited to: Maintenance, Operations, Engineering, Construction, Project Management, Health/Safety/Environment, and Codes and Standards.

### Job Qualifications:

#### Education
A 4-year BS Degree in Engineering from an accredited curriculum in the US or the equivalent from outside the US.

#### Licenses / Certifications
Current and active California PE license or Engineer in Training (EIT) desired.

#### Experience
1-2 years of experience in engineering desired. A minimum of three months of experience in Process Safety Engineering is required, for example a summer internship, entry engineer rotation into Process Safety department, or Process Safety work experience at another company. A certificate in Process Safety attached to the BS Degree may substitute for prior Process Safety work experience.

#### Knowledge / Abilities
1. Able to understand and apply Process Safety Management principles.
2. Able to work with limited supervision and guidance to meet commitments.
3. Demonstrates informed judgment when making decisions and recommendations.
4. Excellent written and verbal communication skills.
5. Works well independently and with others.
6. Uses judgment in applying engineering principles and techniques to determine cost effective and practical solutions.
7. Ability to manage and complete several activities concurrently, depending on scope and complexity.
8. Interprets applicable codes, industry standards and regulations.
9. Can provide thorough analysis of issues and justification of recommendations.
10. Takes ownership of problems and their solutions.

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<th>GAS PROCESS SAFETY ENGINEER (52218593)</th>
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| **Job Duties:** | May perform all the duties of the Associate Engineer and in addition:  
1. Support development of QRA’s and interpretation of QRA results.  
2. Coordinate (i.e., primary interface with project or facility lead) Moderate PHAs  
3. Coach engineers, project managers, construction personnel, and other business partners in assessing process safety needs.  
4. Evaluate effective implementation of safety processes, procedures, and considerations.  
5. May support Apparent Cause Evaluation’s (ACE’s) (note: CAP group, supervisors, field employees etc. may also perform this function)  
6. Acts as a Process Safety coach and reviewer for changes (per Change Control procedure)  
7. Participate in assessing Change Control effectiveness and identify opportunities to improve |
| **Scope** | Resolves problems of basic to moderate scope. Assignments typically require standard solutions. Under general direction, independently plans work to meet assigned objectives; progress is reviewed periodically for technical accuracy and adequacy in process and upon completion. |
| **Interaction** | Interacts with and coaches Process Safety stakeholders including but not limited to: Maintenance, Operations, Engineering, Construction, Project Management, Health/Safety/Environment, and Codes and Standards. |
| **Job Qualifications** | |
| **Education** | A 4-year BS Degree in Engineering from an accredited curriculum in the US or the equivalent from outside the US. |
| **Licenses / Certifications** | Current and active California PE license or Engineer in Training (EIT) desired. |
| **Experience** | Demonstrated knowledge and ability to perform the basic duties of the Journey Level Engineer. Meets specific technical job-related requirements gained through a minimum of three (3) years of cumulative and relevant experience in process safety, engineering, design and/or operations. |
| **Knowledge / Abilities** | 1. Able to understand and apply Process Safety Management principles.  
2. Able to work with limited supervision and guidance to meet commitments.  
3. Demonstrates informed judgment when making decisions and recommendations.  
4. Excellent written and verbal communication skills.  
5. Works well independently and with others.  
6. Uses judgment in applying engineering principles and techniques to determine cost effective and practical solutions.  
7. Ability to manage and complete several activities concurrently, depending on scope and complexity.  
8. Interprets applicable codes, industry standards and regulations.  
9. Can provide thorough analysis of issues and justification of recommendations.  
10. Takes ownership of problems and their solutions. |

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<td><strong>Summary</strong></td>
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| **Job Duties:** | May perform functions of Journey level Engineers and in addition:  
1. Facilitate and coordinate (i.e., primary interface with project or facility lead) Complex PHAs. Analyze PHA findings and assist stakeholders in identifying and addressing systemic issues. |
2. Take a lead role as Process Safety representative in facility internal or external audits
3. Lead Layer Of Protection Analysis (LOPA) studies in relation to PHAs (note: this refers to the semi-quantitative analysis of layers of protection to determine their effectiveness, considering enabling conditions, conditional modifiers, probability of failure on demand, safety integrity level, and calculation of the initiating event frequency, ultimately resulting in an order-of-magnitude estimation of risk. It does not refer to informal discussions of safeguards or informal decision-making assessments.)
4. May calculate the frequency with modifiers to estimate the likelihood for specific process safety scenarios to evaluate risk. This will be used for Quantitative Risk Assessments (QRA) while combined with consequence modeling.
5. Calculate the physical effects of consequence for specific process safety scenarios using PHAST or spreadsheets to evaluate risk. This is with respect to facility (compressor stations, gas processing platforms, storage fields, and gas terminals) risk assessments.
6. May support the interpretation of quantitative risk assessment (QRA) results and provide technical inputs on the mitigation action plan.
7. Conduct Gas Plume Dispersion Consequence modeling using appropriate software for facility siting purposes as well as supporting the hazardous area classification (HAC) study.
8. Analyze Process Safety metrics generated by the Process Safety Organization to identify systematic issues and assist with improvement plans.
10. Facilitate appropriate improvement activities based on results of process safety culture assessments (note: business owners may choose to facilitate these improvement activities on their own).
12. Perform process safety risk assessments for emerging issues and develop a mitigation plan with support from the line of business.
13. Verify process safety elements of hydraulic analysis/sizing basis of appropriate pressure relief valve, flare and depressuring cases (note: other groups may perform this work).
14. Identify ISD design options, applying ISD strategies, incorporating input from all other team members (Note: business owners may choose to do this without Process Safety assistance).
15. Identify appropriate design options to address human factors/facility siting issues, incorporating input from all other team members.
16. May support improvement activities for Change Control (Note: other employees such as Gas Safety Excellence team may lead these activities).
17. Contribute to the development of company standards, specifications, and guidelines
18. May lead Apparent Cause Evaluation's (ACE's) (note: CAP group, supervisors, field employees etc. may also perform this function).

Scope
- Resolves problems of moderate to complex scope. Assignments may provide an opportunity for creative or non-standard approaches. Under general direction, independently plans work to meet assigned general objectives. Work may be reviewed upon completion.

Interaction
- Interacts with and mentors Process Safety stakeholders including but not limited to: Maintenance, Operations, Engineering, Construction, Project Management, Health/Safety/Environment, and Codes and Standards.

Job Qualifications:

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Current California PE license desired. |

Experience
- Mastery of the Journey level Engineer job duties and demonstrated knowledge and ability to perform the basic duties of the Senior level Engineer. Meets specific technical job-related requirements gained through a minimum of eight (8) years of cumulative experience in process safety, engineering, design and/or operations, of which four (4) years must have been spent in a position(s) primarily focused on process safety activities.

Knowledge / Abilities
- Demonstrate knowledge and abilities required for the Journey level Engineer and also:
  1. Able to apply layer of protection strategies and identify risk reduction options
  2. Demonstrate ability to handle multiple large scale and complex activities without supervision.
  3. Excellent interpersonal and communication skills.
  4. Demonstrate good presentation skills including knowledge transfer presentations.
  5. Complete assignments of broad scope and complexity.
  6. Ability to integrate information from a variety of sources.
  7. Ability to lead process improvement initiatives.
**Summary**

This is a senior consulting/advising level engineer job that requires mastery of one or more of process safety focus areas and is responsible for leading complex process safety activities within PG&E Gas Operations. The Senior Consulting Engineer applies extensive knowledge of concepts, principles, and practices to resolve complex problems with only general direction. Researches and identifies practical solutions to highly complex problems. Identifies and facilitates opportunities and brings in ideas to help improve company performance.

**Job Duties:**

May perform the functions of Journey and Senior level Engineer and in addition:

1. Identify complex layer of protection strategies and lead complex LOPA studies (simple, moderate, and complex as defined in a future procedure with agreement by ESC and Management).
2. Support the development of criteria for robust layers of protection to ensure their required Safety Integrity Levels (SIL) or Probability of Failure on Demand (PFD).
3. May conduct complicated consequence analyses.
4. May instruct others in consequence analysis.
5. May lead Root Cause Evaluations (RCE’s) (Note: other employees such as CAP team may lead RCE’s as well).
6. May instruct/mentor others in Hazardous Area Classification.
7. May instruct/mentor others in pressure relief, depressuring, and flare systems.
8. Address complex pressure relief and flare scenarios (note: other groups at PG&E may also do this).
9. Instruct/mentor others in Inherently Safer Design (ISD).
10. Identify and apply complex ISD strategies.
11. Instruct/mentor others in human factors from a process safety perspective.
12. Instruct/mentor others in facility siting from a process safety perspective.
13. Provide training and technical guidance to other Process Safety engineers across Gas Operations.
14. Provide guidance and technical expertise to management on application of process safety risk reduction approaches.
15. Instruct/mentor others in LOPA and all other Process Safety analyses and studies, which is best served by in house expertise.
16. May lead improvement activities for Change Control (Note: other employees such as Gas Safety Excellence team may lead these activities).

**Scope**

Resolves problems of very complex scope. Serves as a key technical resource within area of focus. Regularly expected to apply creativity or new approaches to assignments that may be unique. May lead others on technically complex projects. Customarily and regularly uses discretion and independent judgment in fulfilling these job functions.

**Interaction**

Interacts with and mentors Process Safety stakeholders including but not limited to: Maintenance, Operations, Engineering, Construction, Project Management, Health/Safety/Environment, and Codes and Standards.

**Job Qualifications:**

**Education**

A 4-year BS Degree in Engineering from an accredited curriculum in the US or the equivalent from outside the US.

**Licenses / Certifications**


**Experience**

Mastery of the Journey and Senior level engineer job duties within one or more Process Safety focus areas and demonstrated knowledge and ability to perform the basic duties of the Senior Consulting Level Engineer. Meets specific technical job-related requirements gained through a minimum of thirteen (13) years of cumulative experience in process safety, engineering, design and/or operations, of which seven (7) years must have been spent in a position(s) primarily focused on process safety activities.

**Knowledge / Abilities**

Demonstrates knowledge and abilities required for the Journey and Senior level Engineer and also:

1. Able to handle multiple large and complex activities without supervision and serve as team leader.
2. Able to provide leadership, direction, and assistance to engineers and designers.
3. Excellent interpersonal and communication skills.
4. Able to complete complex assignments with few or no precedents or standards.
5. Able to apply extensive knowledge of concepts, principles and practices in a specific field or area of expertise to resolve complex problems.
GAS PROCESS SAFETY ENGINEER, PRINCIPAL (52218596)

**Summary**
This is a principal level Process Safety engineering position. This position is responsible for providing Process Safety support for the most complex projects in Process Safety. Possible projects include, but are not limited to: Qualitative Risk Assessment, Quantitative Risk Assessment, Field Process Safety Support, and Incident Investigations.

The individual in this role will be recognized as an industry expert at PG&E. This individual actively shares knowledge through technical leadership and coaching.

**Job Duties:**
May perform the functions of Journey, Senior, and Senior Consulting/Advising Engineer and in addition:
1. Leads large, highly complex (multi-discipline, multi-group) projects and roll-out implementation
2. Performs technical analyses, studies, and develops data and recommendations for enhanced decision-making
3. Performs Quality Assurance (QA) on technical aspects of Process Safety deliverables and effectiveness
4. Leads development, implementation, and delivery of process safety focus area(s) and their continuous improvement
5. Routinely called upon by Management to provide advice or leadership on Process Safety issues
6. May act as a company witness, liaison, and/or information provider to outside parties regarding technical process safety matters.
7. May represent PG&E with regulatory agencies and at external industry associations, committees, trade organizations and other inter-utility groups regarding technical process safety matters.

**Scope**
Resolves complex issues. Serves as a key technical resource and consultant within area of specialization. Regularly expected to apply creativity or new approaches to assignments. May lead others on technically complex projects. Customarily and regularly uses discretion and independent judgment in fulfilling these job functions under general direction of Management.

**Interaction**
Externally, establishes and maintains good relations with counterparts in other groups within the Company and higher level representatives in third party organizations, e.g., governmental, regulatory, business partner or community entities, using skilled negotiation, tact and diplomacy. Internal contacts include company management across various departments. Often is a technical coach for others. May participate in professional affiliations (e.g. ASCE, ASME, AGA) to keep abreast of new industry trends, developments and procedures. May represent the company on industry association committees.

**Job Qualifications:**

**Education**
A 4-year BS Degree in Engineering from an accredited curriculum in the US or the equivalent from outside the US.

**Licenses / Certifications**

**Experience**
Mastery of the Journey, Senior, and Senior Consulting level engineer job duties and demonstrated knowledge and ability to perform the basic duties of the Principal Level Engineer. Meets specific technical job-related requirements gained through a minimum of fifteen (15) years of cumulative experience in process safety, engineering, design and/or operations, of which ten (10) years must have been spent in a position(s) primarily focused on process safety activities.

**Knowledge / Abilities**
Demonstrates knowledge and abilities required for the Journey, Senior and Senior Consulting level Engineer and also:
1. Takes ownership of problems and their solutions.
2. Demonstrates expert level knowledge in at least two Process Safety areas, per definitions:
   a. Qualitative Risk Assessment (PHA)
   b. Quantitative Risk Assessment (QRA)
   c. Process Safety Field Support (MOC/ SWP/ JSSA/ JHA/ PSSR)
   d. Incident Investigations (RCE/ ACE)
3. Apply extensive knowledge of concepts, principles and practices to solve complex problems
4. Provides internal consulting (SME support) for PG&E in the areas of expertise
5. Provide leadership, direction, and assistance to engineers and designers. Coach and develop
### SOURCING SPECIALISTS

**Sourcing Specialist, Associate (52327307) and Career (52327308)**

#### Summary

- **A.** Works with internal Line of Business (LOB) clients to negotiate, execute and implement contracts for the procurement of goods and services for clients in assigned functional areas.
- **B.** Supports governance and compliance of contract approval process from contract creation through the contract award process.
- **C.** Works to enhance client experience with Sourcing by demonstrating aptitude in driving strategic value and operational excellence to meet client needs.
- **D.** Collaboratively works with client partners and Sourcing team members in developing and amending all types of contracts between PG&E and suppliers, with the exception of Master Service Agreements.
- **E.** The Associate classification is developmental, expected to work with higher level Specialists to develop skills and expertise.

#### Job Duties

1. Processes Purchase Requisitions (PRs) and provides updates on status of PR’s when requested
2. Creates, reviews, and issues purchase orders, contracts and CWAs generated from PRs; executes up to signing authority
3. Ensures all PRs, purchase orders and contract documents comply with all PG&E policies, processes and procedures
4. Processes Return Material Authorizations for materials purchases, as needed
5. Maintains accurate records in procurement systems
6. Identifies and maintains catalogs in procurement systems
7. Submits new vendor information for setup in procurement systems
8. Engages Women, Minority, and Disabled Veteran business enterprises from among PG&E approved vendors to support supplier diversity goals.

For Career level, in addition to those listed above for Associate level:

9. Collaborates with LOB partners and Sourcing team members to develop, write, and negotiate new contracts and renewals (i.e. all types of contracts between PG&E and suppliers, with the exception of Master Service Agreements) of low to moderate complexity
10. Leads and/or assists in running Quick Bids.
May also spend a percentage of time on:
11. Consults and trains LOB on the Sourcing process; utilizes training materials as available
12. Provides support in interpreting contractual language for contracts of low to moderate level of complexity
13. Proactively reviews Sourcing process across LOBs to identify areas of improvement

#### Knowledge / Abilities

1. Ability to learn and utilize SAP and Ariba
2. Proficient in Microsoft Office (Excel, Word, and PowerPoint)
3. Strong attention to details
4. Ability to work in team environment
5. Ability to work on multiple issues and tasks
6. Possesses general technical knowledge with ability and desire to continue increasing business and technical knowledge base

For career level, in addition to those listed for the Associate level:

7. Advanced SAP and Ariba skills (or advanced skills on similar procurement systems)
8. Advanced Microsoft Office skills (Excel, Word, and PowerPoint)
9. Ability to prioritize, plan, perform and communicate activities, both in written and verbal form
10. Good interpersonal skills and team focus
11. Ability to interface effectively with the line of business up to the Director level
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<thead>
<tr>
<th>Job Qualifications:</th>
<th>Associate</th>
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<tbody>
<tr>
<td>BA/BS or equivalent experience required (one year of experience for every one year of college)</td>
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<tr>
<th>Career</th>
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<tr>
<td>BA/BS or equivalent experience required (one year of experience for every one year of college) AND 2 years of supply chain or other related discipline</td>
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### Sourcing Specialist, Senior (52327309)

<table>
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<tbody>
<tr>
<td>A. Works with internal Line of Business (LOB) clients to negotiate, execute and implement contracts for the procurement of goods and services for clients in assigned functional areas.</td>
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<tr>
<td>B. Supports governance and compliance of contract approval process from contract creation through the contract award process.</td>
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<tr>
<td>C. Works to enhance client experience with Sourcing by demonstrating aptitude in driving strategic value and operational excellence to meet client needs.</td>
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<tr>
<td>D. Collaboratively works with client partners and Sourcing team members in developing and amending all types of contracts between PG&amp;E and suppliers, with the exception of Master Service Agreements.</td>
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<tr>
<td>E. The Senior Sourcing Specialist is similar to the Associate and Career Sourcing Specialist but works on more complex contracts and has a higher level of responsibility.</td>
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### Job Duties

Perform all Associate and Career duties, and in addition:

1. Collaborates with LOB partners and Sourcing team members to develop, write, and negotiate new contracts and renewals (i.e., all types of contracts between PG&E and suppliers, with the exception of Master Service Agreements) of moderate to high complexity.
2. Provide training to other Sourcing Specialists on the Sourcing process, may assist in developing training materials.
3. Recognize gaps and needs in current Company procurement policies and procedures, identify appropriate corrective action, and work with management to implement changes if appropriate.

### Knowledge / Abilities

In addition to those listed for the Career level:

1. Strong business and technical background
2. Strong interpersonal skills and ability to work in cross-functional teams
3. Ability to work autonomously with little supervision and to direct the work of others to some degree
4. Strong analytical and research skills

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<th>Job Qualifications:</th>
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<tr>
<td>BA/BS or equivalent experience required (one year of experience for every one year of college) AND 4 years supply chain or other related discipline</td>
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