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09-42-ESC

March 31, 2011

Mr. Joshua Sperry, Senior Union Representative
Engineers and Scientists of California
Local 20, IFPTE, AFL-CIO & CLC
835 Howard Street, 2nd Street
San Francisco, CA 94103

Dear Mr. Sperry:

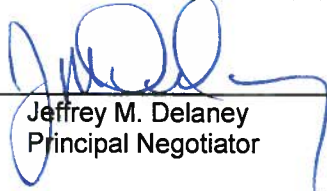
Attached is the Diablo Canyon Power Plant Engineering and Quality Verification table agreement reached on July 24, 2009 between the Company and ESC bargaining committee members.

If you are in accord with the foregoing and agree thereto, please so indicate in the space provided and return one executed copy of this letter to the Company.

Very truly yours,

PACIFIC GAS AND ELECTRIC COMPANY

By: _____


Jeffrey M. Delaney
Principal Negotiator

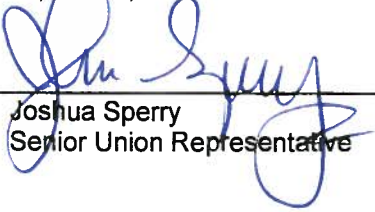
The Union is in accord with the foregoing and agrees thereto as of the date hereof.

ENGINEERS AND SCIENTISTS OF CALIFORNIA
LOCAL 20, IFPTE, AFL-CIO and CLC

5/18

_____, 2011

By: _____


Joshua Sperry
Senior Union Representative

Diablo Canyon Power Plant
Engineering and Quality Verification
Table Agreement
July 24, 2009

This table agreement reached on July 24, 2009 between the Company and the ESC bargaining committee members is subject to ratification by the membership.

The ESC Engineering/QV Bargaining Committee recommends a "Yes" vote.

1. Performance Standards

Employees shall continue to be covered by a performance appraisal process which shall be modified to include the following criteria, and which may be modified by the Company from time to time.

Appropriate performance includes, but is not limited to:

1. Following all industrial, nuclear and radiological safety rules and procedures (safety competency)
2. Performing work only if qualified, maintaining all assigned qualifications current, and staying on schedule for all assigned training (accountable for results competency)
3. Maintaining all assigned corrective action program documents, system or component health reports, or similar documents assigned up-to-date.
4. Completing assignments in reasonable time frame.
5. Completing all required company documentation accurately and completely (acts with ethics/integrity competency)

2. Hours

The work hours of exempt employees covered by this exhibit may vary on any given day, although each employee shall have a designated work schedule. Employees may be required to work a different schedule (including afternoon or evening start times), or work for more than eight hours on a workday, or to work on a non-work day, as the occasion demands. Time worked beyond the employee's normal schedule may be eligible for compensation as defined in the "overtime" section of this exhibit.

With agreement between the Company and Union, work schedules other than "five eights" such as four day, ten hour, or nine day, eighty hour schedules may be implemented. The existing 4X10 and 9X80 schedules will be continued; it is not the Company's intent to change these schedules at this time. However, these alternative schedules may be cancelled by the Company with 60 days advance notice.

In addition, the alternative work schedule of an individual employee may be cancelled based on the needs of the operation and/or the employee's performance. Employees who work an alternative work schedule shall be available to support business needs on their regular day off (RDO) by, for example, responding to phone calls or rescheduling their RDO as needed.

Management will make every reasonable effort to schedule nuclear engineer business travel to occur on scheduled work days.

The provisions of Title 7, 8.5, 16 and 17 shall not be applicable to the engineering and quality verification employees included in this unit.

Telecommuting is identified as on-going performance of job responsibilities from a remote location. As the feasibility of telecommuting will vary with the needs of the operation based on factors such as the precise type of work involved and the number of other telecommuters, this option requires written agreement between the employee and the supervisor and such agreement will be entered into at the Company's sole discretion. The conditions of telecommuting will be consistent with PG&E Telecommuting Guidelines in place at the time. Signed copies of individual telecommuting agreements will be sent to the Union.

Meals are reimbursable if for out of town or overnight business travel and for other approved business needs. Approval for reimbursement is required by an employee's supervisor. Meals involving only PG&E employees conducting internal PG&E business or staff related meetings are discouraged and are only reimbursable if approved in advance by the employee's Director or VP.

Exempt employees shall not be charged vacation leave for increments used of less than four (4) hours.

Exempt employees shall be charged sick leave in four (4) hour increments, with no charge made for increments of less than four (4) hours. Once the four (4) hour threshold is met, additional sick leave will be charged in hourly increments. No deduction shall be made for an increment of less than four (4) hours from the wages of an employee who has exhausted his/her sick leave.

3. **Advancement**

Advancement from Associate Engineer to Engineer as follows: DCPP Associate Engineers who meet the requirements for advancement to Journey Engineer and are performing satisfactorily in their current classification shall advance to Journey Engineer upon reaching 3 years experience.

Advancement from Journey Engineer to Senior Engineer as follows: DCPP Journey Engineers who meet the requirements for advancement to Senior Engineer and are performing satisfactorily in their current classification may advance to Senior Engineer upon reaching 8 years experience, provided that the Company determines that an operational need exists for an additional DCPP Senior Engineer in the discipline of the Journey Engineer to be advanced.

Advancement from Senior Engineer to Senior Advising/Senior Consulting Engineer as follows: DCPP Senior Engineers who meet the requirements for advancement to Senior Advising/Senior Consulting Engineer and are performing satisfactorily in their current classification may advance to Senior Engineer upon reaching 13 years experience, provided that the Company determines that an operational need exists for an additional DCPP Senior Advising/Senior Consulting Engineer in the discipline of the Senior Engineer to be advanced.

Advancement from Senior Advising/Senior Consulting Engineer to Principal Engineer: A Senior Advising/Senior Consulting Engineer who meets the job qualifications of a Principal Engineer and who is performing the job duties of their current classification satisfactorily may be advanced to Principal Engineer if the Company, in its sole discretion, determines that a business need exists. If such a need exists but the Company determines that there is no qualified DCPP candidate from the appropriate discipline, the Company may consider other candidates using the joint selection board used to fill vacancies. The Company may fill this position(s) at its discretion, and there is no requirement that such a position be backfilled after it is vacated for any reason.

If, when an operational need exists, more than one Journey is qualified to advance as set forth above, the Company shall select the employee whose ability and personal qualifications make him/her most qualified for the job. If ability and personal qualifications are substantially equal, Seniority shall prevail.

If, when an operational need exists, no one in the discipline is qualified to advance as set forth above, a vacancy exists, and shall be filled as described in Section 4 below.

Additionally, an eligible employee may request special consideration for promotion no more than once per calendar year, when an operational need does not exist. The question of whether such a special promotion is appropriate shall be considered by the selection board with tie breaking decisions allotted to PG&E.

4. Vacancies

All other job vacancies will be filled as follows:

When vacancies occur, a selection board of two management and two union appointed employees will interview applicants, using jointly developed job qualifications and interview questions. If the selection board decides there are too many applicants to interview for a particular opening, it will decide which applicants to interview by screening applications against the selection criteria.

In half of the vacancies to be filled for Associate and Journey positions, and for all more senior vacancies, other than those for which special skills or experience are required, only ESC-represented employees will be considered for interviews. If no ESC-represented candidates apply, or if the selection board determines (as described below) that the ESC candidates are not qualified, additional candidates from within and outside the unit may be considered. For the remaining Associate or Journey vacancies, the Company may add candidates from outside the unit.

For all vacancies, the selection board shall evaluate and select the most qualified candidate based upon the selection criteria, interview performance, and for PG&E employees, current performance and seniority. In the event the board is deadlocked the Company will make the final decision, which shall be subject to the grievance procedure only to determine whether the Company considered all of the factors listed above before deciding.

5. Seniority

Unless otherwise provided, Company seniority will be used in a manner consistent with the current ESC agreement.

6. Contingent compensation

- The parties agree to continue the current compensation incentive plan and further agree not to make changes to how payments are determined (nine box grid) for the life of the agreement, e.g. no enhanced "flexibility" of supervisor grading.
- The Senior Vice President of Human Resources will review any determination that an employee would not receive an incentive plan payment.
- The parties agree to meet and discuss how system-wide incentive contingent compensation is to be paid in advance of the 2011 negotiations. Said discussions will take place in 2010 within 6 months of ratification and may include 3rd party assistance, e.g. RAI, as agreed to by the parties. Any studies commissioned on contingent compensation shall be jointly commissioned by both parties but paid solely by the employer. These talks shall be considered ad hoc and cost for lost time to be paid by the employer. The Union committee will consist of no more than 6 PG&E employees, plus appropriate Union staff and consultants.

7. Overtime

The current exempt employee additional time worked policy will remain in effect. That is,

Employees are eligible for pay at the 1.0x rate when all three of the following conditions are met:

1. The employee is required to work in excess of two hours beyond his or her normal daily work schedule or is required to work additional hours on a non-workday; and
2. The employee is authorized to work additional time by a PL2 manager, superintendent or higher prior to working the additional time; and
3. The employee is not eligible for any other type of special incentive designed to offset additional time worked.

The first two additional hours worked on a regular workday are not compensated.

Diablo Canyon Power Plant (DCPP) Outages

Employees are eligible for pay at the 1.5x rate when required to work during scheduled or unscheduled outages and in selected work activities outside of outages in support of preventing a unit shutdown or loss of generation are eligible for pay for additional hours worked beyond the normal daily work schedule. Outage duration is defined as when the main generator output breaker is opened to when it is closed. Certain departments that support the outage work, but perform their overtime prior to the breaker being opened or after the breaker is closed, are eligible if approved in advance by the Company.

8. Pay Structure

Job Title	Annual Salary (2009)	
	Minimum	Maximum
Nuc Engineer, Associate	66.0	85.1
Nuc Engineer/QV Auditor	72.6	104.2
Senior Engineer/Sr QV Auditor	85.0	114.0
Senior Advising/Senior Consulting Engineer	96.4	121.0
Principal Engineer	110.0	130.0

Current incumbents with a rate of pay above the range maximum will not receive Progressive Wage Increases, but shall continue to receive future General Wage Increases.

9. Progressive Wage Increase (PWI) Schedule

An employee with a rate of pay below the range maximum and who qualifies for a PWI shall receive a 2.5% PWI (not to exceed the range maximum) effective November 1, 2009. If such employee's rate of pay is still below the range maximum, the employee shall be entitled to an additional PWI of 2.5% (not to exceed the range maximum) effective March 1, 2010. * Thereafter, such employee shall be entitled to a PWI in accordance with Subsection 15.4 (b)(2).

* Adjustments will be made subject to SAP programming restrictions. While not expected to occur, should the PWIs be delayed due to SAP programming restrictions, such adjustment shall be made retroactively.

10. Job Descriptions and Qualifications

Incumbent employees who do not meet the job qualifications for their current position shall be grandfathered for that position.

Employees may transfer to other disciplines in their same job description provided they are qualified. Specific job qualifications will be determined by the Company and employees shall be provided adequate time on the job to become qualified.

The number of supervisors doing bargaining unit work will not exceed the historical practice of the number of supervisors who perform such work as of April 2, 2008, and the percentage of bargaining unit work those supervisors perform as compared to their total workload will also be consistent with historic practice as of April 2, 2008. In no event will bargaining unit work comprise more than 50% of a supervisor's duties.

See attached Job Descriptions.

11. Emergency Response Organization (ERO) Duties

Employees shall be provided one day off with pay (coded as time off with pay/with permission) for each 6 month period that the employee is assigned to an ERO position with the same reporting requirements of minimum staff. Such one day off with pay will be granted after the employee has completed a 6 month assignment and shall be taken by the employee within 6 months of the date earned. Additionally, such one day off with pay will be for the full workday that the employee is assigned when the day is taken. For example, when assigned to a 10 hour workday, the employee would be given the full day off - when assigned to an 8 hour workday, the employee would be given the full day off.

12. Nuclear Emergency Response Organization Labor Management Committee

In order to work toward a mutually agreeable solution to current challenges in the staffing and administration of the nuclear ERO at DCP, the Union and PG&E nuclear management agree to establish a nuclear ERO Labor Management Committee that will seek mutually agreeable means to achieve the following joint goals:

1. Ensure timely and appropriate training for personnel assigned to the ERO
2. Provide for a system of rotation of ESC-represented ERO members.
3. Determine which ERO positions actually require ESC-represented Engineering and Professional personnel.
4. Determine a process for assigning eligible ESC-represented employees to fill ERO positions based on:
 - a) Skills and experience
 - b) Home location
 - c) Previous ERO on-call service (i.e. no more indefinite commitments)
 - d) Personal limitations for nuclear ERO duties.

**QUALITY VERIFICATION ENGINEERING
JOB DESCRIPTIONS
July 24, 2009
Job Descriptions for Nuclear Quality Verification Auditor
Job Titles**

	Nuclear Auditor/Inspector	Nuclear Inspector/Auditor
Associate	Associate Nuclear Auditor	Associate Nuclear Inspector
Journey	Nuclear Audit Team Leader	Nuclear Inspector
Senior	Nuclear Senior Audit Team Leader	Nuclear Senior Inspector
Senior Advising	Nuclear Senior Audit Team Leader II	

Nuclear Associate Level	
Summary	<p>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.</p> <p>The responsibility level of this position increases with experience.</p>
Job Duties:	<p>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</p> <ul style="list-style-type: none"> - 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 auditors experience and expertise with the more complex assignments being implemented by the auditor or senior auditor positions.

**QUALITY VERIFICATION ENGINEERING
JOB DESCRIPTIONS
July 24, 2009**

	<p>Other assignments may include:</p> <ul style="list-style-type: none"> -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	<p>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.</p>
Scope	<ul style="list-style-type: none"> - 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.

**QUALITY VERIFICATION ENGINEERING
JOB DESCRIPTIONS
July 24, 2009**

Nuclear Journey Level	
Summary	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 experience professional and is considered to be the fully developed "journey-level" or "career" position.
Job Duties:	<ul style="list-style-type: none"> - 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 approach. - 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	<ul style="list-style-type: none"> - 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.

QUALITY VERIFICATION ENGINEERING
JOB DESCRIPTIONS
July 24, 2009

	<ul style="list-style-type: none">- 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.
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**QUALITY VERIFICATION ENGINEERING
JOB DESCRIPTIONS
July 24, 2009**

Nuclear Senior Level	
Summary	In addition to meeting the criteria for a "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:	<ul style="list-style-type: none"> - 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 <u>complex</u> 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 <i>multiple disciplines</i> 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	<p>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.</p> <p>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.</p>
Scope	<ul style="list-style-type: none"> - 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

QUALITY VERIFICATION ENGINEERING
JOB DESCRIPTIONS

July 24, 2009

	<p>policies and procedures.</p> <ul style="list-style-type: none">- 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.
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**QUALITY VERIFICATION ENGINEERING
JOB DESCRIPTIONS
July 24, 2009**

Nuclear Senior Advising Level	
Summary	In addition to meeting the criteria for a "Nuclear Senior Level", 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 "expert" in the quality area.
Job Duties:	<ul style="list-style-type: none"> - 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 <u>high risk major</u> and <u>technically complex</u> 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	<p>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.</p> <p>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.</p>
Scope	<ul style="list-style-type: none"> - 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.

**CHEMISTRY ENGINEERING
JOB DESCRIPTIONS
July 29, 2009**

Associate Nuclear Chemistry Engineer	
Summary	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.
Job Duties	<p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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</p>
Scope	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.
Interaction	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.

**CHEMISTRY ENGINEERING
JOB DESCRIPTIONS
July 29, 2009**

Associate Nuclear Chemistry Engineer (continued)	
Education	Recommended BS or BA degree in chemistry or a closely-related technical discipline
Licenses / Certifications	None
Experience	1-2 years experience in chemistry at a nuclear power is desired.
Knowledge / Abilities	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.

**CHEMISTRY ENGINEERING
JOB DESCRIPTIONS
July 29, 2009**

Journey Level Nuclear Chemistry Engineer	
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	<p>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.</p> <p>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</p>
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 chemistry or a closely-related technical discipline
Licenses / Certifications	ANSI 402-09 - Chemistry and Radiochemistry
Experience	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.
Knowledge / Abilities	<p>Able to apply basic chemistry principles and theory.</p> <p>Prioritizes, plans, and recommends solutions for basic assignments.</p> <p>Approaches and plans work with limited supervision in an organized manner to meet project commitments.</p> <p>Demonstrates good judgment when making decisions and recommendations.</p> <p>Frequently shows initiative and takes action proactively.</p>

**CHEMISTRY ENGINEERING
JOB DESCRIPTIONS
July 29, 2009**

Senior Engineer Level Nuclear Chemistry Engineer	
Summary	This is a Senior Level Nuclear Chemistry Engineer job that requires mastery of the journey level Nuclear Chemistry Engineer job duties and is responsible for leading the development of chemistry processes. Applies extensive knowledge of plant related chemistry concepts, principles, and practices to resolve complex problems with only general direction. Provides leadership, coaching, technical direction, knowledge transfer and assistance to chemistry employees and teams. Additional responsibilities beyond the Journey Level Nuclear Chemistry Engineer include, but are not limited to, the following: Have a command of plant-specific chemistry control programs, deliver presentations, lead team meetings, and interpret industry practices and guidelines. Significant knowledge of plant systems and interactions both chemically and mechanically.
Job Duties	May perform the duties of the Associate and Journey Level Nuclear Chemistry Engineer. 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 Chemistry Engineer; Primary Chemistry, Secondary Chemistry, Radiochemistry, Radioactive and Non-Radioactive Effluents, and Auxiliary Chemistry. May act as an engineering mentor. 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 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 chemistry or a closely-related technical discipline
Licenses / Certifications	ANSI 402-09 - Chemistry and Radiochemistry
Experience	Mastery of the Associate and Journey Level Nuclear Chemistry Engineer job duties and demonstrated knowledge and ability to perform the basic duties of the Senior Level Nuclear Chemistry Engineer. Meets specific technical and ANSI requirements gained through a minimum of eight years of cumulative experience in chemistry and radiochemistry.
Knowledge / Abilities	Demonstrates knowledge and abilities required for the Associate and Journey Level Nuclear Chemistry Engineer. Demonstrates the ability to handle multiple large scale chemistry projects related to the functional chemistry areas without supervision. Demonstrate good presentation skills including knowledge transfer presentations. Ability to serve as the leader for the Nuclear Chemistry Engineer Group, as well as contractors, during period of supervisory absence.

**CHEMISTRY ENGINEERING
JOB DESCRIPTIONS
July 29, 2009**

Senior Consulting/Senior Advising Level Nuclear Chemistry Engineer	
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

**CHEMISTRY ENGINEERING
JOB DESCRIPTIONS
July 29, 2009**

	Senior Consulting/Senior Advising Level Nuclear Chemistry Engineer (continued)
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.

**CHEMISTRY ENGINEERING
JOB DESCRIPTIONS
July 29, 2009**

Principle Level Nuclear Chemistry Engineer	
Summary	This is a Principle 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

**CHEMISTRY ENGINEERING
JOB DESCRIPTIONS
July 29, 2009**

Principle Level Nuclear Chemistry Engineer (continued)	
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.

**RADIATION PROTECTION ENGINEERING
JOB DESCRIPTIONS
July 29, 2009**

Associate Nuclear Radiation Protection Engineer	
Summary	<p>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.</p>
Job Duties	<p>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.</p> <p>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.</p> <p>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.</p> <p>Internal and External dosimetry: Responsible for planning and implementing programs to measure, analyze, calculate and document internal and external occupational exposures at DCP.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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</p>

**RADIATION PROTECTION ENGINEERING
JOB DESCRIPTIONS
July 29, 2009**

Associate Nuclear Radiation Protection Engineer (continued)	
Scope	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.
Interaction	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.
Education	Recommended: BS or BA degree in Health Physics or a closely-related technical discipline
Licenses / Certifications	None
Experience	1-2 years experience in radiation protection at a nuclear power is desired.
Knowledge / Abilities	<ul style="list-style-type: none"> • 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.

**RADIATION PROTECTION ENGINEERING
JOB DESCRIPTIONS
July 29, 2009**

Journey Nuclear Radiation Protection Engineer	
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: <ul style="list-style-type: none"> • 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.

**RADIATION PROTECTION ENGINEERING
JOB DESCRIPTIONS
July 29, 2009**

Senior Nuclear Radiation Protection Engineer	
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 through 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.

**RADIATION PROTECTION ENGINEERING
JOB DESCRIPTIONS
July 29, 2009**

Senior Nuclear Radiation Protection Engineer (continued)	
Knowledge / Abilities	<ul style="list-style-type: none">• 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.

**RADIATION PROTECTION ENGINEERING
JOB DESCRIPTIONS
July 29, 2009**

Senior Consulting / Advising Nuclear Radiation Protection Engineer	
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	<p>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</p> <p>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</p>
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.

**RADIATION PROTECTION ENGINEERING
JOB DESCRIPTIONS
July 29, 2009**

Senior Consulting / Advising Nuclear Radiation Protection (continued)	
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	<ul style="list-style-type: none"> • 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.

**RADIATION PROTECTION ENGINEERING
JOB DESCRIPTIONS
July 29, 2009**

Principal Radiation Nuclear Protection Engineer	
Summary	This is a Radiation Protection Engineer who has acquired extensive knowledge the discipline or area of expertise and who 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 that demonstrate technical leadership for the nuclear industry. This position is for RP engineers with highly specialized skills that are vital to PG&E and DCPD business operation.
Job Duties	<p>May perform the functions of Associate, Journey Senior and Senior Advising/Senior Consulting level Engineer and in addition: (This list is not all-inclusive.) -Lead large highly complex (e.g. 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. Takes the lead in developing 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 PG&E in areas of expertise.</p> <p>Holds 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</p>
Education	BS in Health Physics or related discipline from an accredited curriculum in the US or the equivalent . MS in Health Physics desired
Licenses / Certifications	ABHP certification or PE, depending on area of expertise, highly desired.
Experience	Mastery of Associate, Journey, and Senior level engineer job duties and demonstrated knowledge and ability to perform the basic duties of the Senior Consulting / Advising Radiation Protection Engineer.

**RADIATION PROTECTION ENGINEERING
JOB DESCRIPTIONS
July 29, 2009**

Principle Level Nuclear Radiation Protection (continued)	
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 Level Nuclear Radiation Protection. 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 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.

**ENGINEERING
JOB DESCRIPTIONS
July 29, 2009**

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

ENGINEERING JOB DESCRIPTIONS July 29, 2009

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 designs plant 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.

**ENGINEERING
JOB DESCRIPTIONS
July 29, 2009**

Senior Engineer

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 DCCP.
- 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.

ENGINEERING JOB DESCRIPTIONS July 29, 2009

Sr Consulting/ Sr. Advising Engineer

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.

ENGINEERING JOB DESCRIPTIONS July 29, 2009

Principle Engineer 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 Principle Engineer.