

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
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November 18, 2009

Advice Letter 3483-E

Brian K. Cherry
Vice President, Regulatory Relations
Pacific Gas and Electric Company
77 Beale Street, Mail Code B10C
P.O. Box 770000
San Francisco, CA 94177

**Subject: Request Approval to Disburse Funds from the Humboldt Bay
Power Plant Unit 3 Nuclear Decommissioning Trusts**

Dear Mr. Cherry:

Advice Letter 3483-E is effective October 29, 2009 per Resolution E-4268.

Sincerely,

A handwritten signature in blue ink that reads "Julie A. Fitch".

Julie A. Fitch, Director
Energy Division



Brian K. Cherry
Vice President
Regulatory Relations

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June 29, 2009

Advice 3483-E

(Pacific Gas and Electric Company ID U 39 E)

Public Utilities Commission of the State of California

**Subject: Request Approval to Disburse Funds from the Humboldt Bay
Power Plant Unit 3 Nuclear Decommissioning Trusts**

Purpose

Pacific Gas and Electric Company (PG&E) hereby requests approval of the Interim Disbursement of up to \$57.3 million from the Humboldt Bay Unit 3 Nuclear Decommissioning Master Trusts (Trusts).

This request is to fund decommissioning activities at Humboldt Bay Power Plant Unit 3 (HBPP Unit 3) through May 2010. The specific tasks for which funding is sought are: 1) operation and maintenance of the Independent Spent Fuel Storage Installation (ISFSI) (\$2.5 million); 2) implementation of waste management and transportation plans (\$11.4 million); 3) decommissioning labor expenses (\$18.0 million); 4) removal and disposal of the spent fuel racks and startup sources (\$1.5 million); 5) initiation of necessary additional environmental studies and permitting (\$2.5 million); 6) preparation of a new environmental radiological count room (\$1.6 million); 7) decontamination of the reactor building access shaft (\$2.7 million); 8) purchase tools and equipment (\$5.0 million); and 9) other preparatory decommissioning activities to be performed from 2009 through 2010 (\$12.1 million). A detailed discussion of these scopes of work is included as Attachment 1.

This filing will not increase any rate or charge, cause the withdrawal of service, or conflict with any rate schedule or rule. PG&E customers will see no change in their rates as a result of drawing upon the Trusts for these activities.

Due to the need to perform these activities on a timely basis, PG&E respectfully requests that the California Public Utilities Commission (CPUC or the Commission) act on this request at the earliest possible date.

Background

HBPP Unit 3 is a 65 megawatt boiling water reactor that began commercial operation in 1963, ceased operation in 1976, and was placed in the SAFSTOR custodial mode in 1988 to await final decommissioning. In Decision (D).03-10-014 the California Public Utilities Commission approved a decommissioning plan to commence decommissioning HBPP Unit 3 in 2006 (later extended to 2009).

The Trusts were established in CPUC Decision (D.)85-12-022, to allow PG&E “to recover from its ratepayers the cost of decommissioning the prudently constructed plant at Humboldt Bay Power Plant Unit 3.” Funds for the Trusts were collected from PG&E’s ratepayers from 1988 through 1991 per D.85-12-022, and from 2003 through 2009 per CPUC D.03-020-014 and D.07-01-003, which respectively approved PG&E’s 2002 and 2005 Nuclear Decommissioning Cost Triennial Proceeding (NDCTP) Applications. As of December 31, 2008, the Trusts had a liquidation value of \$328.1 million, a market value of \$333.1 million, and an expense equivalent liquidated of \$391.6 million.¹

The \$57.3 million requested in this filing represents less than 13% of the HBPP Unit 3 TLG Decommissioning Cost Estimate approved in Decision (D.) 07-01-003, PG&E’s 2005 Nuclear Decommissioning Cost Triennial Proceeding (NDCTP). The types of activities outlined in this advice letter were included in PG&E’s 2005 NDCTP.² All of these activities directly relate to decommissioning of HBPP Unit 3 and are distinct from the operations and maintenance activities performed under SAFSTOR.

In accordance with the Commission’s approval of the early decommissioning of HBPP Unit 3, PG&E has been proceeding with decommissioning preparatory and planning activities at Humboldt, and the Commission has on several prior occasions found it reasonable to use decommissioning trust funds to finance projects in anticipation of full decommissioning of HBPP Unit 3.

Section 2.01(7) of the Trusts provides that, one year prior to the time decommissioning is estimated to begin, PG&E shall apply for CPUC approval of the estimated cost and schedule for decommissioning HBPP Unit 3, and that, upon approval, the CPUC shall issue an order authorizing Interim Disbursements from the applicable fund.³ PG&E intends to commence full decommissioning of

¹ The expense equivalent liquidated value of the trusts reflects the amount available, after taxes, to pay for nuclear decommissioning projects.

² These scopes of work are also included in the cost estimates in PG&E’s pending 2009 NDCTP, A. 09-04-007.

³ As amended by Amendment No. 6 to Pacific Gas and Electric Company Nuclear Facilities Nonqualified CPUC Decommissioning Master Trust Agreement for the Diablo Canyon Generating Station and Humboldt Bay Nuclear Unit No. 3 and Amendment No. 9 to the Pacific Gas and Electric Company Nuclear Facilities Qualified CPUC Decommissioning Master Trust Agreement for

HBPP Unit 3 in June 2010. In compliance with Section 2.01(7), on March 27, 2009, PG&E filed Advice Letter 3444-E requesting approval of the Interim Disbursement of funds. On May 27, 2009, the Energy Division rejected Advice Letter 3444-E, without prejudice, suggesting that the issue be determined in PG&E's 2009 NDCTP. PG&E requested review of the Energy Division's disposition of PG&E's Advice Letter 3444-E pursuant to General Order 96-B, Section 7.7.1. That review is pending.

The proposed hearing schedule in the 2009 NDCTP would not result in a final Commission decision until the first quarter of 2010, at the earliest. However, PG&E is now engaged in extensive preparation for full decommissioning, including engineering and planning studies and site preparation. In accordance with the Commission's directive in D.07-01-003, PG&E has mobilized personnel with considerable experience in decommissioning nuclear plants, with staffing increasing more than 50% from January to June 2009.

A delay in PG&E's receiving the funding requested herein would significantly impact PG&E's HBPP Unit 3 decommissioning activities and would risk delays in decommissioning activities and significantly increased costs. Further, if PG&E fails to receive funding and is compelled to delay work schedules, much of this work force may move on to other opportunities, thereby causing their permanent loss to HBPP.

As with previously-approved advance disbursements from the Trusts, PG&E will maintain separate accounting procedures to record the costs of these activities, and actual expenditures will be reviewed upon project completion in the next scheduled NDCTP.

Protests

Anyone wishing to protest this filing may do so by letter sent via U.S. mail, by facsimile or electronically, any of which must be received no later than **July 20, 2009**, which is 21 days after the date of this filing.⁴ Protests should be mailed to:

CPUC Energy Division
Tariff Files, Room 4005
DMS Branch
505 Van Ness Avenue
San Francisco, California 94102

Facsimile: (415) 703-2200
E-mail: ijnj@cpuc.ca.gov and mas@cpuc.ca.gov

the Diablo Canyon Nuclear Generating Station and Humboldt Bay Nuclear Unit No. 3. Amendment Nos. 6 and 9 were authorized through Advice Letter 3081-E, effective August 8, 2007.

⁴ The 20 day protest period concludes on a weekend. PG&E is hereby moving this date to the following business day.

Copies of protests also should be mailed to the attention of the Director, Energy Division, Room 4004, at the address shown above. The protest also should be sent via U.S. mail (and by facsimile and electronically, if possible) to PG&E at the address shown below on the same date it is mailed or delivered to the Commission:

Pacific Gas and Electric Company
Attention: Brian Cherry
Vice President, Regulatory Relations
77 Beale Street, Mail Code B10C
P.O. Box 770000
San Francisco, California 94177

Facsimile: (415) 973-7226
E-mail: PGETariffs@pge.com

Effective Date

PG&E submits this Advice Letter as a Tier 3 filing and requests that it become effective upon Commission approval. Due to the immediate need to perform these activities, PG&E respectfully requests the Commission to act on this request at the earliest possible date.

Notice

In accordance with General Order 96-B, Section IV, a copy of this advice letter is being sent electronically and via U.S. mail to parties shown on the attached list and the parties on the service list for A.09-04-007. Address changes should be directed to San Heng at (415) 973-2640. Advice letter filings can also be accessed electronically at:

<http://www.pge.com/tariffs>



Vice President, Regulatory Relations

Attachment 1: Proposed Project Activities and Costs

Cc: Service List – A.09-04-007

CALIFORNIA PUBLIC UTILITIES COMMISSION

ADVICE LETTER FILING SUMMARY

ENERGY UTILITY

MUST BE COMPLETED BY UTILITY (Attach additional pages as needed)

Company name/CPUC Utility No. **Pacific Gas and Electric Company (ID U39 M)**

Utility type:

- ELC GAS
 PLC HEAT WATER

Contact Person: Megan Lawson

Phone #: 415-973-1877

E-mail: mehr@pge.COM

EXPLANATION OF UTILITY TYPE

ELC = Electric GAS = Gas
 PLC = Pipeline HEAT = Heat WATER = Water

(Date Filed/ Received Stamp by CPUC)

Advice Letter (AL) #: 3483-E

Tier: [3]

Subject of AL: Request Approval to Disburse Funds from the Humboldt Bay Power Plant Unit 3 Nuclear Decommissioning Trusts

Keywords (choose from CPUC listing): Nuclear

AL filing type: Monthly Quarterly Annual One-Time Other _____

If AL filed in compliance with a Commission order, indicate relevant Decision/Resolution #: Does AL replace a withdrawn or rejected AL?

If so, identify the prior AL: No

Summarize differences between the AL and the prior withdrawn or rejected AL:

Is AL requesting confidential treatment? If so, what information is the utility seeking confidential treatment for: No

Confidential information will be made available to those who have executed a nondisclosure agreement: N/A

Name(s) and contact information of the person(s) who will provide the nondisclosure agreement and access to the confidential information:

Resolution Required? Yes No

Requested effective date: CPUC Approval

No. of tariff sheets: N/A

Estimated system annual revenue effect (%): N/A

Estimated system average rate effect (%): N/A

When rates are affected by AL, include attachment in AL showing average rate effects on customer classes (residential, small commercial, large C/I, agricultural, lighting).

Tariff schedules affected: N/A

Service affected and changes proposed: N/A

Protests, dispositions, and all other correspondence regarding this AL are due no later than 20 days after the date of this filing, unless otherwise authorized by the Commission, and shall be sent to:

CPUC, Energy Division

Tariff Files, Room 4005

DMS Branch

505 Van Ness Ave., San Francisco, CA 94102

jnj@cpuc.ca.gov and mas@cpuc.ca.gov

Pacific Gas and Electric Company

Attn: Brian K. Cherry, Vice President, Regulatory Relations

77 Beale Street, Mail Code B10C

P.O. Box 770000

San Francisco, CA 94177

E-mail: PGETariffs@pge.com

Attachment 1

1. Operation and Maintenance of the ISFSI

The used fuel at Humboldt Bay was moved to the Independent Spent Fuel Storage Installation (ISFSI) in 2008. With the placement of the fuel at the ISFSI PG&E commenced incurring operation and maintenance (O&M) expenses associated with the ISFSI. PG&E received initial funding of \$4.0 million through Advice Letter 3147-E for this scope. The ongoing costs for O&M of the ISFSI, security at the ISFSI, NRC fees, and NRC inspections through May 2010 is an additional \$2.5 million.

2. Implement Waste Management and Transportation Plans

To support the removal of the reactor vessel and other highly radioactive equipment the waste management and transportation plans require an increase in plant staff, buying or leasing necessary equipment, contracting with a company to supply radwaste management services such as cranes, forklifts, excavators, waste container fabrication, packaging support, cribbing support, securing loads and professional and technical services. The implementation of this complex plan requires time and effort to make certain that the plan is working and can support the level of radwaste shipments during decommissioning. The equipment needs to be purchased, procedures written on how to use the equipment, training provided to the staff, dry runs of the techniques used to demonstrate how this plan is going to be implemented and experience gathered through actually doing the job so that the shipment of higher activity waste can be done safely and cost effectively. It generally takes between 15 and 18 months of implementing waste and transportation plans to get them efficiently operating and capable of supporting the most complex and hazardous shipments of radioactive waste. The plant staff and equipment are required to safely and efficiently demolish radioactive material/waste and ship this waste to an appropriate radioactive waste landfill or processor. Equipment such as truck and intermodal scales, intermodal survey blocks, lift liner jigs and bags, miscellaneous repair and maintenance equipment for the above mentioned equipment need to be purchased. The estimate for implementing the waste management and transportation plan is \$11.4 million. Waste Management and Transportation plans are a necessary prerequisite to decommissioning and were included in the 2005 TLG cost estimates.

3. HBPP Decommissioning Labor Expenses

This request is for labor costs through May 2010, when full decommissioning begins.

Planning and implementation of the early portion of HBPP Unit 3 decommissioning will focus on reconfiguring the turbine building for packaging waste materials in preparation for Radwaste processing and shipping. Advice Letter 3147-E included \$13.1 million for this scope of work. The area will be created by removing turbine building equipment, beginning with the main transformers and the generator. Other site work activities include preparatory activities (planning and engineering) such as decommissioning work

package development, and physical work such as waste processing or infrastructure modifications, resulting in multiple decommissioning work crews working at the same time. Additional labor includes management positions, safety oversight, procurement and finance, licensing support, radiation protection and engineering. These staffing costs are fully captured in the period dependent costs in the 2008 cost estimate submitted in the 2009 Nuclear Decommissioning Cost Triennial Proceeding (Application 09-04-007, dated April 3, 2009).

Clearance Coordinators play a vital role in identification, marking, and clearing energized and active systems to assure that work can proceed safely and without impact to Unit-3 SAFSTOR requirements or fossil generation. They will incorporate a number of methods to assure that these systems are not impacted during decommissioning activities including established clearance and tagging processes, physical marking of systems and walk downs with field supervision.

Many systems will continue to be active during decommissioning phases and some are shared with the fossil units. Historically, plant drawings were not consistently updated, and they are unreliable to identify these systems and components. In most cases, component identification marks and tags are non-existent, degraded, or painted-over and they must be physically traced. In some examples, portions of original systems were utilized for other purposes and they cannot be easily re-routed because of the fragile condition of wire insulation and corroded piping.

Clearance Coordinators also assist with management and upgrading of the SAFSTOR preventive maintenance program. Their system expertise is utilized for modification and down-grading of Surveillance Test requirements that have been impacted by decommissioning activities and changing license requirements.

Nine (9) decommissioning planners are required to prepare project management plans, rigging plans and detailed step-by-step work packages. They assist in the development of requests for proposals for items such as large cranes, specialized cutting equipment and material handling equipment and assist in the development of cost/benefit analyses for aspects of a project which may have multiple alternatives for size reduction and/or transportation routes to an approved repository.

Four (4) conceptual planners perform plant walk downs to evaluate best approaches to rig, lift and remove plant systems, structures and components to grade. Identify and incorporate best practices to size reduce and convey materials out of a building including selection of equipment and tools. Prepare graphic illustrations to convey material handling aspects needed to rig, lower and size reduce large plant components. Incorporate and integrate best ALARA practices and shipping and container consideration into the overall removal plan and work packages.

Three (3) work package writers and two (2) estimators prepare the detailed step-by-step work packages. The estimators also provide detailed job estimates of labor, material and equipment for each work package. These job estimates provide a basis for tracking

decommissioning costs and earned value. The estimates are developed from field walk downs and reviews of technical documents with inputs from work planners, engineering and project staff because typical job estimating standards cannot be used.

This staff is supporting decommissioning preparatory activities to ultimately issue decommissioning work packages to the field. These decommissioning subject matter experts were specifically recruited to meet the Commission's expectations: "PG&E . . . must employ properly trained experts who have experience relevant to decommissioning a nuclear plant to plan and perform the decommissioning. . . . [W]e expect PG&E to demonstrate in all subsequent decommissioning-related proceedings that throughout the decommissioning of Humboldt . . . it sought out and acquired the services of well-trained and experienced personnel appropriate to the tasks." (D. 07-01-003 at pp. 23-24). This scope includes support of the specific tasks outlined in this advice letter and the issuance of work packages for the following future areas: Anion/Cation Resin Tanks; Condensate Demineralizers; Cleanup Heat Exchangers; Shutdown Heat Exchanger Pumps; Propane Engine Generator; and 240V480V Transformers.

Labor costs are estimated to be \$18.0 million.

4. Spent Fuel Rack Disposal

To support the opening, analysis, packaging and eventual disposal of the Reactor Vessel at HBPP, the current spent fuel pool (SFP) needs to be emptied of all of the material currently contained within the SFP. This material needs to be removed in order to provide space to handle highly activated and radioactive equipment being removed from the Reactor Vessel. The items contained within the SFP will require substantial radiological and environmental safety planning to properly prepare these items for removal. Some of these items currently stored in the SFP are legacy waste from early operations of the plant and therefore there is a long lead time to develop the appropriate sampling plans, evaluate the waste classification and Department of Transportation (DOT) type based on the contamination data, provide a dose to activity model, train the staff, engineer the proper tooling, construct a DOT approved transportation container, and ship this equipment to a licensed radioactive disposal site. The racks will need to be segmented and/or removed whole (based on technical analysis), the contamination sealed on the structure and the item prepared for shipment and disposal. A special projects engineer will follow this project from inception to completion. The work to sample the racks, remove and segment, package and prepare for shipment will be 4 months. PG&E estimates the total cost of the removal and disposal of the spent fuel racks at \$1.1 million.

Several startup sources remain in the pool (750 to 950 R/hr underwater), a control rod follower and up to 8 stellite rollers that have dose rates greater than 100R/hr. These items will need to be retrieved from the pool to allow for the final cleaning and removal of the pool. In addition, these items need to be packaged to meet the EPRI guidelines for storage onsite or offsite. PG&E does not believe that these items can be shipped to the Energy Solutions radioactive waste disposal site in Utah. The estimate for handling and disposal of these startup sources is \$0.4 million.

5. Initiate Environmental Studies and Permitting

The National Environmental Policy Act (NEPA) requires federal agencies, as part of their decision making process, to consider the environmental impacts of actions under their jurisdiction. NRC has promulgated regulations to implement NEPA requirements at 10 CFR Part 51. A final environmental statement for decommissioning Unit 3 was prepared by the NRC in April 1987, which fulfilled NEPA requirements for the project to be placed in SAFSTOR. The U.S. Environmental Protection Agency (EPA) stated in review of the 1986 draft environmental statement that they “believe it is essential that a supplemental Environmental Impact Statement be prepared as plans for final decommissioning are being developed.” . Consultation with the NRC and other vested agencies is necessary to identify work to update the 1987 final environmental statement to ensure compliance with NEPA and NRC regulations. The following tasks are necessary to address the NEPA requirements prior to the initiation of dismantling activities: 1) prepare environmental assessment (EA), 2) prepare finding of no significant impact (FONSI). An EA would be prepared under the direction of the NRC to evaluate potential environmental impacts of the Unit 3 decommissioning. It is assumed that the EA would follow NRC guidance for addressing complex licensing actions. The FONSI is a statement published in the Federal Register stating that the EA has concluded that there are no significant impacts and that an EIS is not required for the project. The estimate for conducting the review and preparing these documents is \$2.5 million.

6. Environmental Radiological Count Room

A new environmental radiological counting room is require to support decommissioning activities and the sampling protocols for license termination via the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) techniques. This count room needs to be built in a location away from Unit 3, so that the background amount of radioactivity being moved in and around Unit 3 does not affect the counting statistics, equipment placed in the facility, the equipment tested, and procedures prepared to operate the equipment. Training needs to be conducted for all of the equipment once all of the procedures have been written. HBPP was shutdown prior to the accident at Three Mile Island and therefore, it was never subjected to the post-TMI facility upgrades that all operating nuclear plants had to implement. This upgrade to the count room capability is to improve the low level counting ability to support protection of the environment and the workers. The existing count room will be used to support radwaste shipments and radiological characterization of the plant prior to work activities. This laboratory will be under the NRC Regulatory Guide 4.15 Quality Assurance program and the individuals working in the laboratory need to become Reg Guide 4.15 trained and qualified. This program requires very detailed laboratory analysis capabilities, laboratory cross check program and blind sample analysis to qualify the laboratory for this type of work. These Quality assurance checks and programs take many months of effort to get the laboratory qualified. This laboratory needs to be completely through this process before it is used to quantify environmental samples.

In AL 3147-E, \$250,000 was set aside to purchase new equipment and to install it in a location onsite. However, since that time space onsite has become a premium and with the construction of the new generation facility, there is no space onsite to house this equipment. Due to counting statistics and counting techniques, two shifts of radiation protection technicians are required to support the ongoing decommissioning activities to collect samples, perform Whole body counts, analyze lapel air samples and plant air samples, water samples for release of liquid effluent and other low activity samples requiring alpha spectroscopy, gamma spectroscopy analysis and gross beta/gamma counting. The estimate for this scope of work is an additional \$1.6 million.

7. Decontamination of Reactor Building Access Shaft

This request is for additional decommissioning preparatory work to remove contaminated systems, numerous mercury switches, and complete personnel safety improvements along the reactor building access shaft from elevation -14 ft. to -66 ft. This work is necessary and prudent for the following reasons: (1) to prepare for decommissioning additional walk downs and access to the lower level of the reactor building is required. The access shaft is a tight area and piping, tubing and instruments along the walls pose a surface contamination hazard as well as a physical hazard that can easily tear into PPE clothing; (2) good environmental practices warrant segregation of hazardous constituents from radiological areas –particularly mercury switches that are typical of a vintage plant of this era that can easily be removed and disposed of prior to start of decommissioning; and (3) frequent access to lower levels in the reactor building by additional personnel using a belt system poses a potential safety hazard. The belt elevator along the shaft should be changed out or modified to lessen the risk. To allow manual movement of personnel, ladders and step-offs should be re-configured. To facilitate movement of waste along the shaft, access should be widened to facilitate efficient movement of waste.

The estimate to remove, ship and dispose of the waste from these areas is \$2.7M.

8. Purchase Tools and Equipment

An adequate tool and equipment supply is needed to prepare for the start of decommissioning. The tools and equipment purchased during this phase will be limited to that needed for the scope of work approved. However, some items needed for this phase will also be used throughout the remainder of the decommissioning project. Examples of such tools include Wachs pipe cutters, Mega-Tech shears, tool cribs, manlifts, rigging and scaffolding. The total estimate for tools and equipment for this phase of the project is \$5.0 million.

9. Preparatory Decommissioning Projects

a. Radiation Protection Training

The radiation protection training for the site staff and for the radiation protection staff needs to be updated to meet the new hazards that will be encountered during

decommissioning of Unit 3. The current training program was designed for a plant in SAFSTOR, or Safe Storage of the spent fuel. The activities planned for the future include the complete removal of all piping systems and radioactive components. This activity requires specialized tooling and presents unique hazards to the workers and the environment. 10 CFR Part 19.12 of the NRC regulations, requires training, “commensurate to the hazard.” As plant systems are open and actively moved onsite and offsite for disposal, new radiological hazards present themselves. Experience has shown that a well trained work force is much more efficient and safe when training is completed at or near the time of the work evolution. This request includes two Radiation Protection Trainers, to help develop and present training to the general staff and to the Radiation Protection Staff. The expected duration of the development and training is 18 months. In addition, there is a need to purchase new radiation detection equipment similar to the instruments used in the plant to perform “practical factors” training for the new workers. The estimate for this scope of work is \$0.3 million.

b. Expand the Respiratory Program

The unique mixture of radioisotopes at HBPP Unit 3 will require the use of respiratory protection equipment to protect the workers. The current respiratory program at HBPP was not designed to handle the number of workers expected during the decommissioning of Unit 3. Some equipment will need to increase in numbers and other equipment will need to be purchased to allow for a higher rate of cleaning and sanitizing of used respirators. This estimate is for an additional 15 months of RP workers and foremen and supervisor to oversee this work. It is estimated that an additional 100 PAPR respirators and 300 BLU suits will be required to support the activity over 15 months, along with a larger washer and dryer for the respirators. The washing facility, maintenance facility and storage facilities need to be substantially enlarged and improve to handle to expected influx of respirators, material costs for replacement batteries and replacement filters. The technical assessment is for procedure writing and training of the staff. The estimate for the expanded respiratory program is \$0.7 million.

c. Increase count room capability

During the first stage of decommissioning, the expected number of radwaste shipments from the HBPP site to a licensed disposal facility is one shipment every two working days. During the final stages of decommissioning, the number of shipments will increase to approximately 5 per day (19 per 4 day work week). The current laboratory is not sized to handle this work load and needs to be improved prior to beginning decommissioning.

The area near the current count room needs to be enlarged to support new equipment that needs to be purchased. Additionally, procedures to support this new equipment and the necessary training to operate this equipment must be developed. This modification will be to existing facilities that requires engineering input as to the feasibility and cost/benefit analysis, since this area will eventually be demolished. The first part is to perform a feasibility study of the planned modifications, and, if they are appropriate,, to implement the modifications. The cost of the individuals to run this count room is

covered in the environmental count room cost. The estimate for the feasibility study is \$0.2 million; the implementation of the modifications is \$0.1 million; and purchase/procedure implementation is \$0.5 million.

d. Truck Portal Monitors

One truck portal monitor has previously been approved for installation at the HBPP site. As a result of the transportation plan it was determined that an additional truck route into the plant is needed to provide separation of trucks supporting decommissioning and walkways of personnel. An additional truck entrance is being constructed. A radiation portal monitor is needed to monitor the incoming and outgoing trucks to insure that no unknown radioactive material is brought onto the site or leaves the site (reference Additional Infrastructure discussion below). The location of the second road will require engineering support and a special projects engineer to follow the design, procurement, and installation of the truck portal monitor. These monitors are standard equipment at nuclear power plants and are used as a final QA check that no radioactive material is released from the site without that truck being manifested as a radioactive shipment. This request is to provide funding for a submittal to the California Coastal Commission for approval to install this monitor, for contractor support to install the monitor, for testing of the devices and for providing remote readout capability. The estimate for this additional portal monitor scope of work is \$0.5 million.

e. Enlarge Access Control

The current radwaste transportation plan calls for the enlargement of the area surrounding Gate 13, where the current alternate access control is located. To support that change in plant design, a new alternate access will need to be constructed and installed. This request is to fund the engineering to support the movement and modification of the plant, for a job supervisor to follow the implementation of the new alternate access and to move the current equipment, re-calibrate and test the equipment prior to opening the new access control. Due to the weight of the equipment, any trailer option will require reinforcement of the foundation to support the radiation detection equipment. The estimate to relocate the access control is \$0.3 million.

f. Routine and Miscellaneous Radiation Protection Supplies

The radiation protection department is required to provide all of the radiological safety supplies for the site. During the preparatory phase running up to the decommissioning of the reactor vessel, miscellaneous supplies will be used to train workers and support those preparatory activities in the plant. A fulltime person is required to order, track, inventory and distribute those supplies. These supplies are consistent with all nuclear plants and the amount being used will be a function of the preparatory efforts being instituted. In addition, radiological PPE is required to be supplied to the staff as needed. Examples of these types of supplies are tapes, OREX suits, PAPR filters and batteries, plastic bags, radiation signs, barrier rope, lapel air sampler heads, smear papers, air sample papers, alpha CAM paper, masselin mops, glove bags, etc. This material is estimated to cost

approximately \$26,000 per month, based on estimates received from SCE SONGS Unit 1 decommissioning. In addition, miscellaneous purchases to support radiation protection activities average about \$15,000 per month. The estimate for routine and miscellaneous radiation protections supplies is \$1.2 million.

g. Reactor Vessel Removal Preparatory Analysis

Additional decommissioning preparatory work at Humboldt Bay Power Plant Unit 3 is needed to examine and evaluate the means, methods and options for the removal, transportation, and disposal of the reactor pressure vessel. The scope of work for the study includes: (1) licensing and permitting requirements; (2) segmentation and/or removal services; (3) packaging and transportation services; (4) disposal services; (5) mobilization and demobilization requirements; (6) level 2 planning and implementing schedule; and (7) a risk assessment.

Though the physical removal of the reactor vessel is not planned until April 2011, this is a critical path activity because of the fourteen month planning effort needed to determine the best method to remove and dispose of the reactor vessel. Once a removal contractor is selected, the removal team will mobilize twelve months prior to start of work, thus this planning effort to meet the April 2011 milestone is a long lead planning activity. In addition, to support a complete characterization of the reactor vessel, work packages and field work will be conducted by PG&E and contractors to obtain surveys of the reactor vessel and to prepare the reactor vessel for access. To prepare the reactor vessel for removal, the shield plug, drywell head, steam line and reactor vessel head will be removed and disposed of at a LLRW disposal site. This planning and physical work to access the reactor vessel is included in this advice letter.

This work is necessary and prudent for the following reasons: (1) working critical path activities maintains the overall decommissioning schedule; (2) PG&E senior management needs to be briefed on the business and project risks on removal of the reactor vessel; and (3) Unlike multi-unit sites that can store a reactor vessel until other units are decommissioned, HBPP must be successful on its removal plan because the site and its license will be terminated when all work is completed.

Resolution E-3737 authorized funding for an analysis of the reactor vessel, reactor internals and surrounding structures. The current cost estimate to update a reactor vessel removal study is \$1.0 million. The cost estimate to develop and implement work packages to support a complete characterization of the reactor vessel is \$0.2 million. The cost estimate for engineering design and engineering support is \$0.5 million.

h. Restore 75 Ton Refueling Building Crane

The 75 ton refueling building crane needs to be recertified and evaluated for needed improvements. The 75 ton main hoist, which was originally built in 1947 for a substation in San Francisco, has not been used in the last 20 years. Due to the age of this equipment, replacement parts are no longer available and any required replacement will

result in extensive evaluations of parts equivalency. To improve the safety of the operation of the 75 ton main hoist new electrical and control components including refurbished or new motors are required. This equipment is needed for access to the reactor vessel for characterization. The estimate to restore the 75 ton main host is \$1.6 million.

i. Temporary Utilities for Decommissioning

Temporary utilities are needed in most areas to prepare for decommissioning, such as electrical power, service air, water, lighting, ventilation, and communications. Existing utilities, designed for routine operations and maintenance, are typically inadequate or unavailable to meet the needs of decommissioning. For example, power tools often require higher voltage and/or amperage to operate, additional lighting is typically needed in most rooms, and ventilation systems need to be modified. These temporary utilities need to be planned, designed, purchased, and operational prior to starting decommissioning activities. The estimate to provide temporary utilities for the decommissioning activities is \$1.2 million.

j. Additional Infrastructure

Increased staffing required for the decommissioning of HBPP Unit 3 results in the need for additional office space, including facilities for storage of records, records management, and the construction of a second access road that connects the main access road to PG&E facilities north of the parking lot. This work includes the engineering, surveying, geotechnical, permitting, materials testing, and inspection needed to complete design of the access road and monitor construction. The increased staffing to support the decommissioning activities requires the purchase/leasing of additional trailers and installation of services such as telephone, computer, water, and electrical. The estimate for the additional infrastructure is \$2.0 million.

k. Main Transformer removal

The removal of the Main Transformers and House Transformer and yard work adjacent to the Turbine Building is a prerequisite activity to support removal of the Main Turbine and Generator components. The transformers are located south of the turbine pedestal. Once the transformers have been removed, a crane can be positioned where the transformers used to be. This will provide a shorter radius for the crane as it lifts the heavy generator and turbine components. The cost to remove, package and dispose of the transformers is estimated at \$0.1 million.

l. Remove Seal Oil Exciter Switchgear Room

The Generator is installed above the seal oil exciter switchgear room, and its structure is the ceiling of the seal oil exciter switchgear room. Once the Generator is lifted, the seal oil exciter switchgear room will be open from above. The availability of the existing site 25T crane shared between Units 1, 2 and 3 will make removal of large component skids

and switchgear easy to remove. This room is a solid concrete shielded structure and can be used for supplemental storage of radioactive waste. The existing 25T site crane will not be available once Units 1 and 2 are demolished early in Unit 3 decommissioning. The cost to remove, package and dispose is estimated at \$0.1 million.

m. Remove Pipe Gallery

The Condenser Pipe Tunnel openly adjoins the Pipe Gallery and large bore piping such as the main steam, feed water supply and closed cooling water supply and return lines pass through these areas. Removing these lines from one end of the building to the opposite end ensures proficient use of resources, contamination control and coordination with work crews. To prepare the reactor vessel for isolation, the feed water, sample nozzles and instrument lines in this area will have to be removed and/or isolated. A monorail is being extended to facilitate movement of waste between the Turbine Building and the Reactor Building. This same monorail will be used to remove waste from the Pipe Gallery as well as to store waste once the area is cleared. These areas share the same ventilation zone and the coordination of work and opening of the area for future storage is considered a preparatory activity. The cost to remove, package and dispose of the piping and valves is estimated at \$1.6 million.

**PG&E Gas and Electric
Advice Filing List
General Order 96-B, Section IV**

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Anderson & Poole	Department of Water Resources	Northern California Power Association
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