

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE



April 24, 2019

Advice Letter 5495-E

Erik Jacobson
Director, Regulatory Relations
Pacific Gas and Electric Company
77 Beale Street, Mail Code B10C
P.O. Box 770000
San Francisco, CA 94177

**SUBJECT: Request Approval of the Disbursement of Funds from the Humboldt Bay
Power Plant Unit 3 Nuclear Decommissioning Trusts**

Dear Mr. Jacobson:

Advice Letter 5495-E is effective as of April 14, 2019.

Sincerely,

A handwritten signature in cursive script that reads "Edward Randolph".

Edward Randolph
Deputy Executive Director for Energy and Climate Policy/
Director, Energy Division



Erik Jacobson
Director
Regulatory Relations

Pacific Gas and Electric Company
77 Beale St., Mail Code B13U
P.O. Box 770000
San Francisco, CA 94177

Fax: 415-973-3582

March 15, 2019

Advice 5495-E

(Pacific Gas and Electric Company ID U 39 E)

Public Utilities Commission of the State of California

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

Purpose

Pacific Gas and Electric Company (PG&E) hereby submits its updated request for authorization to make disbursements from the Humboldt Bay Unit 3 Nuclear Decommissioning Master Trusts (Trusts) to fund decommissioning activities at Humboldt Bay Power Plant Unit 3 (HBPP Unit 3). PG&E requests approval of the disbursement of \$46.8 million for planned decommissioning expenditures in 2019. The total planned expenditures for 2019 is \$64.6 million (in nominal dollars).¹

PG&E is collecting revenues to fund the Trusts, and drawing upon the Trusts for these activities will not increase any rate of charge, cause the withdrawal of service, or conflict with any rate schedule or rule.

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 (CPUC or the Commission) approved a decommissioning plan for HBPP Unit 3.

The Trusts were established in 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 pursuant to D.85-12-022; from 2003 through 2013 pursuant to D.03-20-014, D.07-01-003 and D.10-07-009; and from 2014 through 2016 pursuant to D.14-02-024 and D.14-12-082.

¹ The remaining \$17.9 million was authorized through Advice 5239-E but was not spent in 2018. Values may not sum due to rounding.

The Commission approved PG&E's 2015 Nuclear Decommissioning Cost Triennial Proceeding (NDCTP) in D.17-05-020, issued on May 25, 2017, with a decommissioning cost estimate for HBPP Unit 3 of \$1.055 billion (nominal/2014 \$), and associated revenue requirements for 2017 through 2019. As of December 31, 2018, the Trusts had a market value of \$138.2 million, a liquidation value of \$134.4 million, and an expense equivalent liquidated value of \$134.7 million.²

In D.11-07-003 the Commission reaffirmed its previous determination that PG&E seek specific Trust disbursements through advice letter filings,³ and specified information to be included in future advice letters.⁴ That decision also requires PG&E to submit an advice letter at least once every calendar year.⁵ D.14-02-024 specified additional information to be provided when seeking Trusts disbursement authorizations.⁶ PG&E's compliance Advice Letter 4379-E providing the revised reporting format was effective March 21, 2014.

Present Request

PG&E filed its 2018 NDCTP Application (A.) 18-12-008 on December 13, 2018 updating the decommissioning cost estimate for HBPP Unit 3; that application is pending Commission approval. All of the \$64.6 million in this request is for amounts and activities included and approved in the 2015 NDCTP:

Major Cost Category	Amount Requested for 2019
General Staffing (Excludes Caisson)	\$10.6
Remainder of Plant Systems	\$0.8 million
Specific Project Costs (Excludes Disposal/Caisson/Canal)	\$27.1 million
Waste Disposal (Excludes Caisson/Canal)	\$1.1 million
Small Value Contracts	\$4.2 million
Spent Fuel Management	\$19.8
Caisson Removal	\$0.0 million
Canal Remediation	\$0.0 million
Common Site Support Caisson and Canals	\$1.0 million
EPC Services	\$0.0 million

D.11-07-003 authorized PG&E to obtain reimbursement from the Trusts for amounts up to the total amount authorized in an advice letter, i.e., PG&E may withdraw funds

² The liquidation value of the Trusts reflects the amount available, after taxes, to pay for nuclear decommissioning projects.

³ See Resolution E-4268.

⁴ D.11-07-003, Attachment B.

⁵ D.11-07-003, Ordering Paragraph 3.

⁶ D.14-02-024, Ordering Paragraph 2.

for a particular activity in excess of the annual request for that activity so long as the total disbursements are within the advice letter authorization. Any variances are identified in the next advice letter.⁷ PG&E's projected expenditures for 2018 as authorized in Advice Letter 5023-E totaled \$93.8 million; the actual amount spent was \$73.6 million. Within that amount, expenditures for Specific Project Costs (excluding Caisson and Canals) were \$12.5 million less and Caisson and Canals were \$3.9 million less than the expenditures projected in the Advice Letter. The other decommissioning activities during 2018 made up the remaining \$3.9 million.⁸

The activities for which PG&E seeks Trust disbursements are distinct from the operations and maintenance activities performed under SAFSTOR and, consistent with prior Commission decisions, PG&E is not requesting any funding for SAFSTOR through this Advice Letter. PG&E does not expect to incur any SAFSTOR expenses after 2019 for the reasons set forth in PG&E's 2018 NDCTP Application.

PG&E tracks its actual SAFSTOR expenses against the forecasted amount and "trues up" any difference. In D.14-02-024, the Commission accepted PG&E's proposal to modify the manner in which it trues up actual and forecast SAFSTOR expenses so that SAFSTOR over-collections are credited against decommissioning costs otherwise recoverable from the Trusts. The Commission directed PG&E to report on any such credits in its annual Trusts Disbursements Advice Letters.

During 2017 PG&E collected an excess of \$1,151,457.42 million over actual HBPP SAFSTOR costs. PG&E's June 2018 request for disbursement from the HBPP Nuclear Decommissioning Trusts for expenditures of \$3,177,634.62 was reduced by this amount to a total of \$2,026,177.20. During 2018 PG&E collected an excess of \$1,606,304.25 million over actual HBPP SAFSTOR costs. PG&E's January 2019 request for disbursement from the HBPP Nuclear Decommissioning Trusts for expenditures of \$4,639,568.14 was reduced by this amount to a total of \$3,033,263.89. These overcollections were attributable to less manpower required to maintain the NRC SAFSTOR requirements than was anticipated.

In accordance with D.11-07-003 and D.14-02-024, PG&E is providing the following additional information:

Attachment 1 – Graph Tracking Total NDCTP Forecast and Actual
Decommissioning Expenditures

Attachment 2 – Description of Categories of Work and Reference to Decommissioning
Project Report

⁷ D.11-07-003, Attachment B.

⁸ Values may not sum due to rounding.

Attachment 3 – Spreadsheet Identifying Actual and Forecast Expenditures by Cost Category and Current Authorization Request

Attachment 4 – Comparison of Actual to Forecast Annual Cash Flow

Attachment 5 – Comparison of Actual to Forecast Project Schedule

Attachment 6 – 2009 - 2011 Expenditures on Ongoing Decommissioning Project Pending Reasonableness Review

Attachment 7 – Comparison of Amounts Previously Requested for Each Activity versus Total Amount Spent

The information in these attachments is based on the currently authorized amounts from the 2015 NDCTP.

As with previously approved disbursements from the Trusts, PG&E will maintain separate accounting to record costs of these activities, and the related transactions with the Trusts, to permit cost monitoring. In accordance with Ordering Paragraph 2 of Resolution E-4268, PG&E will seek disbursement from the Trusts for activities granted herein only after PG&E has incurred and paid the costs for the activities, or through the advance withdrawal procedures authorized in Section 2.01(5) of the Trusts. To date, PG&E has not utilized these advance procedures; instead, on a periodic basis, PG&E requests withdrawals from the Trusts of the costs of internal services and vendors actually paid.

Actual expenditures will be reviewed after completion of specific projects in subsequent NDCTPs.

Protests

Anyone wishing to protest this submittal may do so by letter sent via U.S. mail, facsimile or E-mail, no later than April 4, 2019, which is 20 days after the date of this submittal. Protests must be submitted to:

CPUC Energy Division
ED Tariff Unit
505 Van Ness Avenue, 4th Floor
San Francisco, California 94102

Facsimile: (415) 703-2200
E-mail: EDTariffUnit@cpuc.ca.gov

Copies of protests also should be mailed to the attention of the Director, Energy Division, Room 4004, at the address shown above.

The protest shall also be sent to PG&E either via E-mail or U.S. mail (and by facsimile, if possible) at the address shown below on the same date it is mailed or delivered to the Commission:

Erik Jacobson
Director, Regulatory Relations
c/o Megan Lawson
Pacific Gas and Electric Company
77 Beale Street, Mail Code B13U
P.O. Box 770000
San Francisco, California 94177

Facsimile: (415) 973-3582
E-mail: PGETariffs@pge.com

Any person (including individuals, groups, or organizations) may protest or respond to an advice letter (General Order 96-B, Section 7.4). The protest shall contain the following information: specification of the advice letter protested; grounds for the protest; supporting factual information or legal argument; name, telephone number, postal address, and (where appropriate) e-mail address of the protestant; and statement that the protest was sent to the utility no later than the day on which the protest was submitted to the reviewing Industry Division (General Order 96-B, Section 3.11).

Effective Date

PG&E requests that this Tier 2 advice submittal become effective on regular notice, April 14, 2019, which is 30 calendar days after the date of submittal.

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.16-03-006 and A. 18-12-008. Address changes to the General Order 96-B service list should be directed to PG&E at email address PGETariffs@pge.com. For changes to any other service list, please contact the Commission's Process Office at (415) 703-2021 or at Process_Office@cpuc.ca.gov. Send all electronic approvals to PGETariffs@pge.com. Advice letter submittals can also be accessed electronically at: <http://www.pge.com/tariffs/>.



ADVICE LETTER SUMMARY

ENERGY UTILITY

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

Company name/CPUC Utility No.: Pacific Gas and Electric Company (ID U39E)

Utility type:

- ELC GAS WATER
 PLC HEAT

Contact Person: Yvonne Yang

Phone #: (415)973-2094

E-mail: PGETariffs@pge.com

E-mail Disposition Notice to: Yvonne.Yang@pge.com

EXPLANATION OF UTILITY TYPE

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

(Date Submitted / Received Stamp by CPUC)

Advice Letter (AL) #: 5495-E

Tier Designation: 2

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

Keywords (choose from CPUC listing): Compliance

AL Type: Monthly Quarterly Annual One-Time Other:

If AL submitted in compliance with a Commission order, indicate relevant Decision/Resolution #: D.11-07-003

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:

Confidential treatment requested? Yes No

If yes, specification of confidential information:

Confidential information will be made available to appropriate parties who execute a nondisclosure agreement. Name and contact information to request nondisclosure agreement/ access to confidential information:

Resolution required? Yes No

Requested effective date: 4/14/19

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:

Service affected and changes proposed¹: N/A

Pending advice letters that revise the same tariff sheets: N/A

¹Discuss in AL if more space is needed.

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

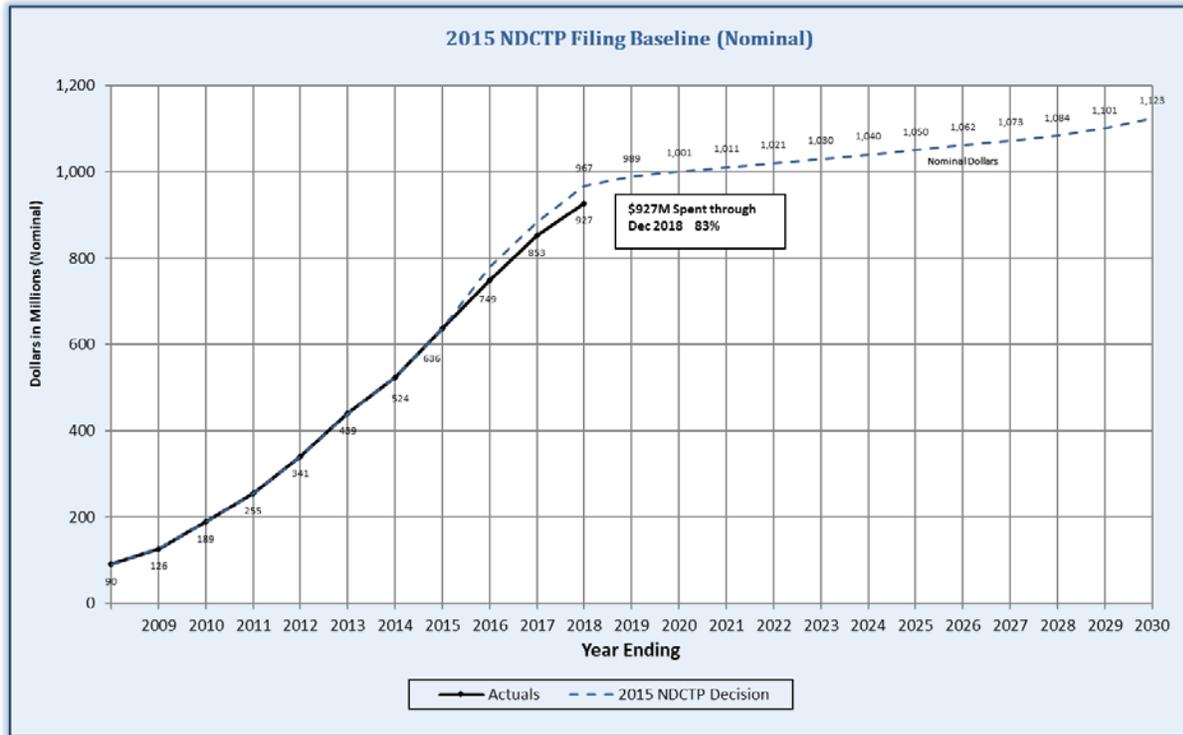
CPUC, Energy Division
Attention: Tariff Unit
505 Van Ness Avenue
San Francisco, CA 94102
Email: EDTariffUnit@cpuc.ca.gov

Name: Erik Jacobson, c/o Megan Lawson
Title: Director, Regulatory Relations
Utility Name: Pacific Gas and Electric Company
Address: 77 Beale Street, Mail Code B13U
City: San Francisco, CA 94177
State: California Zip: 94177
Telephone (xxx) xxx-xxxx: (415)973-2093
Facsimile (xxx) xxx-xxxx: (415)973-3582
Email: PGETariffs@pge.com

Name:
Title:
Utility Name:
Address:
City:
State: District of Columbia Zip:
Telephone (xxx) xxx-xxxx:
Facsimile (xxx) xxx-xxxx:
Email:

Attachment 1

Graph Tracking Total NDCTP Forecast and Actual
Decommissioning Expenditures



Comparison Forecast to Actual Expenditures In Millions			
Year	Baseline NDCTP Estimate (2014\$)	Escalated NDCTP ¹	Actual
Prior			524
2015	110	113	112
2016	135	142	113
2017	97	105	104
2018	74	83	74
2019	19	22	65F
2020	11	13	
2021-2030	86	122	

Notes:

1. Reflects PG&E's approved 2015 NDCTP escalation rates for PG&E labor, equipment and materials, contract labor, and other established by the CPUC.

Attachment 2

Description of Categories of Work and Reference to
Decommissioning Project Report

DESCRIPTION OF CATEGORIES OF WORK AND REFERENCE TO 2015 DECOMMISSIONING PROJECT REPORT

In accordance with Decision 14-02-024 PG&E provides a description of the decommissioning cost categories adopted for Humboldt Bay Power Plant Unit 3 ("HBPP") with specific references to the Decommissioning Project Report for HBPP ("DPR"). The Decision directs that self-performed work shall include subcategories for staffing, tools and equipment, and contractors. These subcategories are identified in the relevant cost categories below.

Contingency. (DPR section 3.3.1.9)

For purposes of presenting decommissioning costs in advice letters, contingency has been allocated to each major cost category, rather than being identified as a separate cost category.

General Staffing (Excludes Caisson). (DPR section 3.3.1.1)

This cost category includes both PG&E employees and contract employees under their direct supervision. It includes general project support functions that cannot typically be identified with a single project activity such as engineering, radiation monitoring and protection, environmental support and compliance, training, licensing, contracting and procurement, and other general oversight/management. Staffing does not include short term consultants, janitorial and other site maintenance services, or direct labor supporting discrete projects such as carpenters, electricians, pipe fitters, Deconners, etc.

The forecasted expenditure for this scope is \$10.6 million in 2019.

Remainder of Plant Systems. (DPR section 3.3.1.3)

This cost category encompasses the removal conducted by PG&E in support of Civil Works activities. It includes both PG&E and contract employees (i.e. Radiation Protection) and the required tools, equipment and supplies that are used for these activities.

The forecasted expenditure for this scope is \$0.8 million in 2019.

Site Infrastructure. (DPR section 3.3.1.4)

Site Infrastructure activities have been completed.

Specific Project Costs (Excludes Disposal/Caisson/Canal). (DPR section 3.3.1.5)

Specific projects include the following:

Civil Works Contract Projects (Excludes Caisson/Canal).

All costs in this category are included in the major civil works contract; no PG&E costs are included.

The forecasted expenditure for this scope of work is \$27.1 million in 2019.

Specific Civil Works Contract Projects include the following:

Nuclear Facilities Demolition and Excavation. (DPR section 3.3.1.5.3)

This category includes decommissioning and demolition of all remaining permanent plant structures and facilities identified for demolition. While the caisson removal and canal remediation projects are included within this civil works contract scope, for purposes of cost tracking, the caisson removal, canal remediation and joint support costs are separately identified. This category also includes contractor level of effort support costs.

This scope includes Circ Water Lines work package close out and demobilization, and other Ancillary Projects. This scope also includes handling of waste produced for these activities, as well as other contractor associated costs such as travel and general expenses.

There are no forecasted expenditures for this scope in 2019.

Office Facility Demobilization. (DPR section 3.3.1.5.3.2)

This category includes removal and/or demolition of office facilities and demobilization. There are no forecasted expenditures for this scope in 2019.

Final Site Restoration. (DPR section 3.3.1.5.3.3)

This category includes final site development work to achieve the required end state condition. Activities include FSR of Charlie Parking Lot, Bravo Road, Charlie Road, Frog Pond, Count Room, and Decom Ave; provide site wide fencing, expand heavy haul road, and create wetland and bio-detention basin.

The forecasted expenditure for this scope is \$27.1 million in 2019.

Waste Disposal (Excludes Caisson/Canal). (DPR section 3.3.1.6)

Waste disposal consists of disposal of contaminated and activated material. This cost category includes third party disposal costs, intermodal rentals, equipment rental to support material handling and loading of intermodals, state disposal fees, and other specialty tools necessary to support the handling and disposal of waste.

The forecasted expenditure for this scope of work is \$1.1 million in 2019.

Small Value Contracts. (DPR section 3.3.1.7)

Small value contracts consist of office supplies, specialty printing and communication services. This category also includes specialty contracts for consultation services and permitting.

The forecasted expenditure for this scope of work is \$4.2 million in 2019.

Spent Fuel Management. (DPR section 3.3.1.8)

This category includes estimated costs for storing high level radioactive waste on site prior to Department of Energy pickup. Included in this category are the costs for security staff (PG&E), operations and maintenance of the ISFSI, discrete labor/tools and equipment for the ISFSI upgrades, upgrades and maintenance to the facility, NRC fees, and other general staff (PG&E and contractors) supporting the ISFSI.

The forecasted expenditure for this scope of work is \$19.8 million in 2019.

Caisson Removal. (DPR section 3.3.2.1)

This category includes costs directly identified with removal of the caisson structure, including the civil works contract, other contractor associated costs such as travel and general expense, completing Soil Management Facility #1 & #2 tent removal, Caisson backfill and PG&E staffing. Packaging and material handling, waste disposal and license termination costs which can be directly attributed to this work scope are also included.

This scope of work is complete. There are no forecasted expenditures for this scope of work in 2019.

Canal Remediation. (DPR section 3.3.2.2)

Canal field work was completed in December 2016. Expenditures in 2017 and 2018 are for waste disposal, milestone payments and invoices for 2016/2017 work not submitted until 2018.

This scope of work is complete. There are no forecasted expenditures for this scope of work in 2019.

Common Site Support. (DPR section 3.3.2.3)

This category includes shuttle service, offsite office space rental for general staff support, and operations of the groundwater treatment system. In 2019, projected expenditures are primarily for shuttle service and offsite office space rental.

The forecasted expenditure for this scope of work is \$1.0 million in 2019.

Engineering, Procurement and Construction Services (EPC). (DPR section 3.4)

This category includes costs for labor, transportation, materials, equipment, vehicles, and supervision necessary to perform general site services at HBPP.

There are no forecasted expenditures for this scope of work in 2019.

Attachment 3

Spreadsheet Identifying Actual and Forecast Expenditures by
Cost Category and Current Authorization Request

	Remaining Project		2015-2018			2019		
	2015-NDCTP 2015-2030 (2014S)	2015-NDCTP 2015-2030 (Nominal)	2015-NDCTP 2015-2018 (Nominal)	2015-2018 SPENT	Variance	Forecast 2019 Spend	Spent Plus 2019 Forecast Spend	(2015-2019) Approved 2015 NDCTP (Nominal)
General Staffing (Excludes Caisson)	44,453,015	47,719,038	36,475,856	34,158,235	2,317,621	10,599,985	44,758,220	44,996,902
Overall Project	31,110,683	33,332,622	26,762,260	28,138,098	(1,375,838)	7,479,860	35,617,957	35,068,226
License Termination Survey (Excludes Caisson)	7,769,468	8,436,202	5,767,163	6,020,138	(252,975)	2,696,019	8,716,157	8,776,274
Severence	910,750	1,007,882	625,902			424,106	424,106	1,152,402
Contingency	4,662,114	4,942,332	3,320,531		3,320,531	-	-	-
Remainder of Plant Systems	5,473,369	5,684,200	5,283,992	4,187,091	1,096,901	806,991	4,994,081	5,604,939
Direct Labor (PG&E and Contractor)	2,509,630	2,615,981	2,615,981	2,655,329	(39,348)		2,655,329	2,860,330
Craft								
Radiation Protection								
Liquid Radwaste System								
Tools & Equipment	2,589,267	2,675,281	2,311,609	1,931,762	379,847	806,991	2,738,752	2,744,609
Common Tools								
Rad Protection								
Glove Bags								
Disallowed Scope (Seismic Upgrades)				(400,000)	400,000		(400,000)	
Contingency	374,472	392,937	356,402		356,402			
Specific Project Costs (Excludes Disposal / Caisson / Canals)	103,968,390	110,194,042	110,194,042	98,694,380	11,499,661	27,131,414	125,825,795	110,194,042
Reactor Vessel Removal	1,693,007	1,739,108	1,739,108	1,719,469	19,639		1,719,469	1,739,108
Turbine Bldg Demolition (Contractor)								
Civil Works Contract	92,761,682	98,499,676	98,524,051	97,167,710	1,356,341	27,131,414	124,299,124	108,683,615
Facilities Demolition								
Office Trailer Demobilization								
Final Site Restoration								
Disallowed Scope (Seismic Upgrades)	(190,206)	(198,853)	(198,853)	(192,798)	(6,055)		(192,798)	(228,681)
Contingency	9,703,906	10,154,111	10,129,736		10,129,736			
Waste Disposal (Excludes Caisson / Canals)	34,822,844	38,799,614	38,799,614	38,735,930	63,684	1,087,709	39,823,639	38,799,614
Labor (Packaging and Handling)	2,221,071	2,314,370	2,314,370	2,240,236	74,134		2,240,236	2,314,370
Third Party Disposal Sites	30,349,040	34,134,740	34,134,740	36,522,784	(2,388,045)	1,087,709	37,610,493	36,485,244
Waste Handling Building (Contractor)								
Disallowed Scope (Seismic Upgrades)				(27,090)	27,090		(27,090)	
Contingency	2,252,732	2,350,505	2,350,505		2,350,505			
Small Value Contracts	16,069,098	17,165,804	13,562,375	11,017,677	2,544,697	4,194,782	15,212,460	15,261,093
Small Dollar Vendors	1,857,790	1,978,370	1,765,805	1,723,266	42,539	315,665	2,038,931	2,044,743
Specialty Contracts	12,569,999	13,446,652	10,610,152	9,294,412	1,315,740	3,879,117	13,173,529	13,216,350
Contingency	1,641,309	1,740,782	1,186,418		1,186,418			
Spent Fuel Management	137,146,443	177,760,150	37,735,082	27,714,733	10,020,349	19,822,588	47,537,321	47,817,736
Security (PG&E)	79,320,060	100,512,401	23,189,201	21,937,592	1,251,609	10,859,612	32,797,204	32,991,394
ISFSI O&M	7,530,894	9,568,176	2,159,471	1,912,651	246,820	1,011,670	2,924,321	2,942,713
NRC Fees	2,957,559	3,962,653	181,968	174,187	7,782	321,452	495,639	504,651
ISFSI Staffing / Engineering / Specialty Contracts	6,566,259	7,865,250	2,982,170	1,877,811	1,104,359	2,197,736	4,075,547	4,091,729
ISFSI Infrastructure Expenses	8,317,504	9,946,497	4,844,750	1,812,482	3,032,258	5,432,118	7,244,611	7,287,249
ISFSI Removal	10,969,760	19,207,848						
Transfer to DOE	2,666,229	4,165,257						
Contingency	18,818,177	22,532,068	4,377,522		4,377,522			
Contingency (Excludes Caisson / Canals)								
Subtotal Base	341,933,159	397,322,848	242,050,961	214,508,047	27,542,914	63,643,469	278,151,516	262,674,326
Caisson	132,677,602	141,931,590	141,931,590	141,816,081	115,509	-	141,816,081	141,931,590
Field Work (Civil Works Contract)	64,212,338	67,900,149	67,900,149	80,613,876	(12,713,727)		80,613,876	81,405,385
Packaging/Material Handling								
Project Staffing	14,724,336	15,799,824	15,799,824	13,231,648	2,568,176		13,231,648	18,152,723
Waste Disposal	21,824,507	24,645,144	24,645,144	35,092,897	(10,447,753)		35,092,897	26,205,862
License Termination Survey	3,354,407	3,612,137	3,612,137	5,398,254	(1,786,117)		5,398,254	4,486,368
Tools and Supplies	1,145,473	1,189,510	1,189,510	763,662	425,848		763,662	1,301,563
Other	7,717,907	8,232,482	8,232,482	6,715,743	1,516,739		6,715,743	9,663,248
Severence	579,550	625,902	625,902		625,902			716,441
Caisson Contingency	19,119,086	19,926,442	19,926,442		19,926,442			
Canal Remediation	44,242,713	46,962,435	46,962,435	38,670,562	8,291,873	-	38,670,562	46,962,435
Removal (Civil Works Contract)	28,294,233	29,498,057	29,558,057	32,095,069	(2,537,012)		32,095,069	33,005,382
Disposal	11,660,406	13,022,552	13,022,552	6,575,493	6,447,059		6,575,493	13,957,053
Canal Contingency	4,288,073	4,441,826	4,381,826		4,381,826			
Common Site Support - Caisson and Canals	2,158,445	2,325,047	1,833,437	1,270,370	563,068	996,996	2,267,365	2,325,047
Relocation of Trailer City	1,542,565	1,683,754	1,270,639	928,129	342,509	996,996	1,925,125	1,989,151
Groundwater Treatment	292,342	300,592	300,592	306,937	(6,345)		306,937	300,592
Groundwater Treatment System Operation	34,579	35,303	35,303	35,303			35,303	35,303
Contingency	289,960	305,398	226,903		226,903			
EPC Services (Including Quality Training)	10,270,378	10,781,616	10,781,616	8,651,473	2,130,143	-	8,651,473	10,781,616
EPC Services	9,085,128	9,546,825	9,546,825	8,651,473	895,352		8,651,473	10,781,616
EPC Services Contingency	1,185,250	1,234,791	1,234,791		1,234,791			
Subtotal Caisson / Canal / GWTS/EPC	189,349,138	202,000,687	201,509,078	190,408,485	11,100,592	996,996	191,405,481	202,000,687
TOTAL	531,282,297	599,323,535	443,560,039	404,916,532	38,643,507	64,640,465	469,556,997	464,675,013
Advice Letter Approvals				352,792,255				
Difference (Carry Over from previous period)				70,007,764			17,883,486	
Variance (between Advice Letter and Amount Spent/Forecast)				17,883,486			46,756,979	

Note: The amounts in the column labeled 2015-2018 SPENT reflects the estimated amounts identified in the 2018 NDCTP application. As stated in the 2018 NDCTP application, PG&E will be making a true up filing in that proceeding to reflect actual December 31, 2018 balances.

Attachment 4

Comparison of Actual to Forecast Annual Cash Flow

(2014\$)						
Year	PG&E Labor	Equipment & Materials	Contractor Labor	Process & Burial	Other	TOTAL
2015	7,836,148	1,243,242	72,952,982	26,075,908	1,531,380	109,639,660
2016	7,114,709	432,272	74,802,527	23,273,256	1,055,992	106,678,756
2017	6,971,042	411,737	53,624,717	32,401,913	746,435	94,155,843
2018	6,948,852	627,810	44,890,351	11,869,676	850,564	65,187,254
2019	5,339,777	244,039	14,686,417	-	43,085,482	63,355,714
2020	5,043,022	68,356	3,365,544	-	2,323,304	10,800,227
2021	4,968,304	-	2,153,000	-	1,106,896	8,228,200
2022	4,968,304	-	1,616,000	-	999,496	7,583,800
2023	4,968,304	-	1,596,000	-	1,004,051	7,568,355
2024	4,968,304	-	1,536,000	-	1,004,149	7,508,453
2025	4,968,304	-	1,536,000	-	1,111,171	7,615,475
2026	4,968,304	-	2,081,000	-	1,087,996	8,137,300
2027	4,968,304	-	1,596,000	-	989,496	7,553,800
2028	4,968,304	-	1,578,246	-	1,006,557	7,553,107
2029	4,968,304	-	2,230,000	-	1,443,571	8,641,875
2030	291,086	-	5,121,604	2,771,431	2,363,265	10,547,386
TOTAL	84,259,373	3,027,455	285,366,388	96,392,184	61,709,805	530,755,205
					Spent Prior to 2015	524,044,587
					Total Project Forecast	1,054,799,792

(Nominal \$)						
Year	PG&E Labor	Equipment & Materials	Contractor Labor	Process & Burial	Other	TOTAL
2015	8,054,777	1,255,550	74,463,109	27,379,703	1,547,459	112,700,598
2016	7,526,755	443,362	78,206,267	25,658,765	1,085,540	112,920,689
2017	7,590,111	429,690	57,713,108	37,509,264	781,440	104,023,613
2018	7,786,877	666,781	49,783,103	14,427,665	906,784	73,571,210
2019	6,181,781	267,095	16,884,872	-	46,290,549	69,624,297
2020	5,986,054	75,347	3,970,699	-	2,574,305	12,606,405
2021	6,069,567	-	2,621,159	-	1,251,746	9,942,472
2022	6,246,798	-	2,031,134	-	1,154,254	9,432,186
2023	6,429,205	-	2,070,790	-	1,184,096	9,684,091
2024	6,616,937	-	2,057,512	-	1,208,962	9,883,411
2025	6,810,152	-	2,124,587	-	1,365,906	10,300,645
2026	7,009,008	-	2,973,128	-	1,365,906	11,348,042
2027	7,213,671	-	2,354,543	-	1,268,830	10,837,044
2028	7,424,311	-	2,403,789	-	1,318,328	11,146,428
2029	7,641,101	-	3,505,826	-	1,931,353	13,078,280
2030	460,754	-	8,309,430	6,049,686	3,230,422	18,050,292
TOTAL	105,047,858	3,137,825	311,473,057	111,025,084	68,465,880	599,149,704
					Spent Prior to 2015	524,044,587
					Total Project Forecast	1,123,194,291

Attachment 5

Comparison of Actual to Forecast Project Schedule

HBPP Unit 3 Comparison Forecast to Actual Schedule					
Activity Name	2015 NDCTP Expected Start	2015 NDCTP Expected Finish	Most Recent Forecast Start	Most Recent Forecast Finish	Explanation of Major Changes
1) RPV Equipment & System Removal					
RPV Internals Removal & Segmentation	27-Mar-12	10-Sep-13	27-Mar-12 A	27-Sep-13 A	
Cask Operations & Loading - Casks 3, 4, 5, 7 & 8	28-Jun-13	8-Oct-13	28-Jun-13 A	7-Feb-14 A	
Control Rod Blade Loading & Shipping	1-Aug-13	10-Sep-13	2-Aug-13 A	4-Sept-13 A	
Contractor Final SFP Cleaning & Equipment Removal	11-Sep-13	9-Oct-13	22-Jul-13 A	27-Sep-13 A	
GTCC Mobilization & Cask 6 Loading	24-Oct-13	26-Dec-13	5-Nov-13 A	25-Nov-13 A	
Decon Facility Removal	27-Dec-13	31-Jan-14	9-Oct-13 A	22-Oct-13 A	
Drywell Containment Building	3-Feb-14	15-Apr-14	18-Nov-13 A	14-Feb-14 A	
RPV Shell Segmentation	16-Apr-14	24-Mar-15	18-Feb-14 A	11-Jun-15 A	
Drywell Insulation Removal	25-Mar-15	6-Jul-15	15-Jun-15 A	20-Jul-15 A	
Drywell Piping Removal	7-Jul-15	29-Sep-15	12-Aug-15 A	25-Sept-17 A	Work re-sequenced to be removed more efficiently with Caisson
Emergency Condenser Interference Removals	26-Jul-13	23-Sep-13	9-Aug-13 A	16-Oct-13 A	
2) Balance of Equipment & System Removals					
Emergency Condenser Vent Piping Removal	16-Apr-14	5-Jun-14	9-Aug-13 A	28-Sep-13 A	
Emergency Condenser Removal	6-Jun-14	24-Jul-14	6-Dec-13 A	20-Dec-13 A	
SFP Pumps & Filters Removal	28-Jan-14	28-May-14	14-Nov-13 A	14-Mar-14 A	
Condensate Demineralizer Equipment Removals	9-Jan-14	13-Apr-15	23-Jan-14 A	26-Jun-14 A	
LRW Phase 2 Equipment Removals	2-Jul-13	14-May-14	3-Jul-13 A	14-Mar-14 A	
FIXS Installation & Testing	2-Jan-13	24-Jul-13	2-Jan-13 A	1-Aug-13 A	
FIXS Collection & Process Readiness	3-Sep-13	5-Nov-13	14-Oct-13 A	11-Dec-13 A	
Suppression Chamber East Removals	5-Nov-12	10-May-13	21-Dec-12 A	26-Apr-13 A	
CRDM Removals	24-May-13	23-Oct-13	25-Jun-13 A	12-Feb-14 A	
Suppression Chamber West Removals	10-Jun-13	1-Aug-13	10-Jun-13 A	26-Feb-14 A	
Access Shaft Component Removal -66 Elev.	24-Oct-13	14-Jan-14	7-Jan-14 A	12-Jun-14 A	
Access Shaft Component Removal -54 to -44 Elev.	15-Jan-14	6-Jun-14	25-Feb-14 A	29-May-14 A	
Access Shaft Component & Block Walls Removals -34 to -2 Elev.	2-Jul-13	14-Oct-14	2-Jul-13 A	28-Apr-14 A	
Valve Gallery Component Removals - Phase 2	9-Apr-13	8-May-14	9-Apr-13 A	21-Mar-14 A	
Trailer City Move & Staff Relocation	8-Jul-13	31-Oct-13	16-Jul-13 A	25-Nov-13 A	
Facility Water, Sewer & Road Modifications	14-Aug-13	5-Mar-14	14-Aug-13 A	25-Oct-13 A	
Hot Machine Shop Removals & Relocation	28-Mar-13	13-Sep-13	25-Jun-13 A	19-Nov-13 A	
3) Demolition & Civil Works					
LTP to NRC	N/A	3-May-13	N/A	3-May-13 A	
LTP Public Meeting	N/A	20-Aug-13	N/A	20-Aug-13 A	
Turbine Building Removal to +12 Civil Contract	1-Oct-12	16-Oct-13	1-Oct-12 A	12-Sep-13 A	
Civil Works Procurement, Contract Award & Mobilization	18-Dec-12	9-Jan-14	18-Dec-12 A	23-Jul-13 A	
Demo SAS Building	14-Jan-14	11-Mar-14	10-Sept-14 A	30-Oct-14 A	
Demo Hot Machine Shop	14-Jan-14	28-Apr-14	06-May-14 A	29-Sep-14 A	
Demo Liquid Rad Waste Building	15-May-14	23-Oct-14	08-Jan-15 A	4-Aug-15 A	
Demo Low Level Waste Building	3-Jun-14	24-Jul-14	24-Mar-15 A	10-Apr-15 A	
Demo Solid Rad Waste Handling Build (SRHB)	15-May-14	6-Aug-14	12-May-15 A	9-Jun-15 A	
Demo High Level Storage Vault Area	26-Jun-14	13-Nov-14	16-Jun-15 A	6-May-16 A	
Slurry Wall Prep & Mobilize	14-Jan-14	24-Jun-14	19-May-15 A	02-Jul-15 A	
Slurry Wall Pre-Trenching	25-Jun-14	13-Nov-14	23-Apr-14 A	05-Oct-16 A	
Construct Slurry Wall	22-Oct-14	23-Jul-15	25-Jun-15 A	17-May-16 A	
Drain Spent Fuel Pool & Apply Fixatives	28-Jul-15	12-Oct-15	02-Oct-14 A	10-Jun-15 A	
Units 1 & 2 Slab/Foundation Removals	22-Apr-15	22-Jun-15	22-May-14 A	2-May-18 A	
Remove TB Slabs	23-Jun-15	6-Oct-15	10-Apr-15 A	6-Oct-16 A	
Refuel Building Demo & Containment Installation	23-Aug-16	7-Feb-17	23-Oct-15 A	30-Aug-16 A	
SFP Removal/Backfill & CSM Wall Installation	8-Feb-17	9-Nov-17	1-Jul-15 A	5-July-16 A	
Excavations & Concrete Demo to -22 ft	14-Nov-17	15-Mar-18	18-Oct-16 A	11-May-17 A	
Drywell Liner & Activated Concrete Removals	30-Sep-15	18-Aug-16	25-April-17 A	16-Jun-17 A	Work re-sequenced to be removed more efficiently with Caisson
Excavations & Concrete Demo to -74 ft	20-Mar-18	18-Sep-18	13-June-17 A	13-Dec-17 A	Concrete Excavation was executed efficiently
Final Caisson Survey & Backfill to -28	19-Sep-18	31-Dec-18	18-Apr-18 A	20-Apr-18 A	Caisson Demo Backfill -30 to -20
Circ Water & South Yard Piping Removals	28-May-14	28-Oct-14	2-Feb-17 A	12-Mar-18 A	
4) Remediation Restoration & Closeout					
Intake Canal Demolition & Remediation	30-Apr-14	10-Sep-14	10-May-16 A	08-Dec-16 A	Project start date changed to avoid potential site space constraints
Discharge Canal Demolition & Remediation	24-Jun-14	5-Feb-15	30-Dec-14 A	04-Nov-16 A	Adverse weather impacts
Final Site Restoration	9-Feb-17	20-Feb-19	24-Jan-17 A	6-Aug-19	Final Site Restoration Demob complete
Project Administration & Close-out	15-May-19	13-May-20	22-Nov-18	21-Nov-20	

Note: An "A" appearing after the Start or Finish date indicates that the date is the Actual Start or Actual Finish.

Attachment 6

Expenditures on Ongoing Decommissioning Projects Pending Reasonableness Review

Expenditures for Ongoing Decommissioning Projects Pending Future Prudency Review ¹	2009-2011	2012-2014	2015-2018
General Staffing (Excludes Caisson)	303,363	7,327,142	6,020,138
Overall Project			
License Termination Survey (Excludes Caisson)	303,363	7,327,142	6,020,138
Remainder of Plant Systems	-	-	-
Direct Labor (PG&E and Contractor)	-		
Liquid Radwaste System			
Tools & Equipment			
Site Infrastructure			
Specific Project Costs (Excludes Disposal / Caisson / Canal)	-	-	28,281,491
Reactor Vessel Removal			
Turbine Bldg Demolition (Contractor)			
Civil Works			28,281,491
Waste Disposal (Excludes Caisson / Canals)	-	-	-
Labor (Packaging and Handling)			
Third Party Disposal Sites			
Small Value Contracts	-	-	-
Small Dollar Vendors			
Specialty Contracts			
Spent Fuel Management	-	-	-
Security (PG&E)			
ISFSI O&M			
NRC Fees			
ISFSI Staffing / Engineering / Specialty Contracts			
ISFSI Infrastructure Expenses			
Transfer to DOE			
ISFSI Removal			
Caisson	-	-	-
Field Work (Civil Works Contract)			
Packaging/Material Handling			
Project Staffing			
Waste Disposal			
License Termination Survey			
Tools and Supplies			
Other			
Canal Remediation	-	-	-
Removal (Civil Works Contract)			
Disposal			
Common Site Support - Caisson and Canals	-	-	-
Relocation of Trailer City			
Groundwater Treatment			
Groundwater Treatment System Operation			
EPC Services (including Quality Training)	-	-	-
EPC Services			
Total Decommissioning Costs Not Reviewed For Prudency Prior to 2018 NDCTP Filing	303,363	7,327,142	34,301,629

Note:

1. These expenditures reflect costs incurred to date from ongoing projects which have not yet been presented for reasonableness review; these amounts exclude costs which are being presented for reasonableness review in the 2018 NDCTP.

Attachment 7

Comparison of Amounts Previously Requested for Each Activity
versus Total Amount Spent

Comparison Amounts Previously Requested for each Activity versus Total Amounts Spent

(Dollars in Thousands)

AL Disbursement Authorizations Prior to 2012 NDCTP Phase 1 Decision			
	Authorizations Prior to November 2007	November 2007 - January 2014 Disbursement Authorizations ¹	Total
ISFSI O&M (including Security Staffing)		21,628	21,628
Reactor Vessel	100	56,361	56,461
Tools, Equipment, and Health Physics Supplies		20,120	20,120
Field Work and Site Infrastructure/Mods		68,247	68,247
Staffing and Specialty Consultants		120,096	120,096
Packaging, Transportation and Disposal		87,442	87,442
Building Demo (including decontamination)		32,842	32,842
Other		2,350	2,350
Miscellaneous	69,219	22,700	91,919
Subtotal	69,319	431,786	501,106
AL Disbursement Authorizations Post 2012 NDCTP Phase 1 Decision			
	(May 2014 -April 2016)		Total
General Staffing (Excludes Caisson)			57,808
Remainder of Plant Systems			20,689
Site Infrastructure			575
Specific Project Costs (Excludes Disposal/Caisson/Canal)			92,847
Waste Disposal (Excludes Caisson/Canal)			33,537
Small Value Contracts			14,177
Spent Fuel Management			22,467
Caisson Removal			91,648
Canal Removal			79,442
Common Site Support Caisson and Canals			2,893
Requested Funds in previous Advice Letters			(139,719)
Subtotal			276,363
AL Disbursement Authorizations Post 2015 NDCTP Decision			
	(March 2017 - March 2018)		Total
General Staffing (Excludes Caisson)			14,600
Remainder of Plant Systems			1,177
Site Infrastructure			-
Specific Project Costs (Excludes Disposal/Caisson/Canal)			63,947
Waste Disposal (Excludes Caisson/Canal)			12,698
Small Value Contracts			4,001
Spent Fuel Management			19,442
Caisson Removal			84,561
Canal Removal			12,678
Common Site Support Caisson and Canals			943
EPC			1,574
Requested Funds in previous Advice Letters			(46,244)
Subtotal			169,376
Cumulative Advice Letter Requests Total			946,845
Amount Spent through 2018			928,961
Delta			17,883

¹Reflects pro rated \$29.4 million reduction to PG&E's initial requested disbursement in Advice Letter 3649-E- in accordance with Advice Letter 3649-E-A

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

AT&T	Downey & Brand	Pioneer Community Energy
Albion Power Company	East Bay Community Energy	Praxair
Alcantar & Kahl LLP	Ellison Schneider & Harris LLP	Regulatory & Cogeneration Service, Inc.
	Energy Management Service	SCD Energy Solutions
Alta Power Group, LLC	Evaluation + Strategy for Social	
Anderson & Poole	Innovation	
	GenOn Energy, Inc.	SCE
Atlas ReFuel	Goodin, MacBride, Squeri, Schlotz &	SDG&E and SoCalGas
BART	Ritchie	
	Green Charge Networks	SPURR
Barkovich & Yap, Inc.	Green Power Institute	San Francisco Water Power and Sewer
P.C. CalCom Solar	Hanna & Morton	Seattle City Light
California Cotton Ginners & Growers Assn	ICF	Sempra Utilities
California Energy Commission	International Power Technology	Southern California Edison Company
California Public Utilities Commission	Intestate Gas Services, Inc.	Southern California Gas Company
California State Association of Counties	Kelly Group	Spark Energy
Calpine	Ken Bohn Consulting	Sun Light & Power
	Keyes & Fox LLP	Sunshine Design
Cameron-Daniel, P.C.	Leviton Manufacturing Co., Inc.	Tecogen, Inc.
Casner, Steve	Linde	TerraVerde Renewable Partners
Cenergy Power	Los Angeles County Integrated Waste	Tiger Natural Gas, Inc.
Center for Biological Diversity	Management Task Force	
City of Palo Alto	Los Angeles Dept of Water & Power	TransCanada
	MRW & Associates	Troutman Sanders LLP
City of San Jose	Manatt Phelps Phillips	Utility Cost Management
Clean Power Research	Marin Energy Authority	Utility Power Solutions
Coast Economic Consulting	McKenzie & Associates	Utility Specialists
Commercial Energy		
County of Tehama - Department of Public	Modesto Irrigation District	Verizon
Works	Morgan Stanley	Water and Energy Consulting
Crossborder Energy	NLine Energy, Inc.	Wellhead Electric Company
Crown Road Energy, LLC	NRG Solar	Western Manufactured Housing
Davis Wright Tremaine LLP		Communities Association (WMA)
Day Carter Murphy	Office of Ratepayer Advocates	Yep Energy
	OnGrid Solar	
Dept of General Services	Pacific Gas and Electric Company	
Don Pickett & Associates, Inc.		
Douglass & Liddell		