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Exhibit Number : DRA-12
Commissioner : Ferron
ALJ : Wong
Witness : Laura Krannawitter



**DIVISION OF RATEPAYER ADVOCATES
CALIFORNIA PUBLIC UTILITIES COMMISSION**

**Report on the Results of Operations
for
San Diego Gas & Electric Company
Southern California Gas Company
General Rate Case
Test Year 2012**

**SDG&E
Generation Capital**

San Francisco, California
September 1, 2011

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SDG&E GENERATION CAPITAL

I. INTRODUCTION

This exhibit presents the analyses and recommendations of the Division of Ratepayer Advocates (DRA) regarding San Diego Gas & Electric Company's (SDG&E) forecasts of electric generation capital for Test Year (TY) 2012.

2005 was SDG&E's **first** year returning to the non-nuclear generation business since divesting its conventional generation assets under electric restructuring. The Base Year, 2009, was the first year of operating all three generation plants. Those generation plants are the Palomar Energy Center (555 MW) and the two 46 MW turbines at Miramar. In the 4th quarter of 2011, SDG&E will be acquiring the El Dorado power plant¹ (480 MW). SDG&E has a 20% ownership share in the San Onofre Nuclear Generating Station (SONGS).

Non-Nuclear

For non-nuclear generation, SDG&E is seeking \$15 million dollars (in 2009 dollars) for capital expenditures in TY 2012. Recorded 2010 capital non-nuclear generation expenditures were \$9.8 million.² The 2010 forecast presented in SDG&E's December 2010 application, is 22% higher than the 2010 actual capital expenditures for these projects. This large a difference is surprising since the Application came in at year end 2010; one would expect a closer representation between forecasted capital expenditures and actual expenditures. Table 12-1 below shows SDG&E's non-nuclear generation capital proposal.

¹ D.07-11-046 approved SDG&E's request to exercise an option to purchase the plant at book cost from a Sempra Energy affiliate in advance of its Phase II decision in the long term procurement proceeding, R.06-02-013.

² Sempra data response sent April 11, 2011, 2010 RecordedCapitalExpenditures—SDGE.xlsx.

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Table 12-1

SDG&E's Non-Nuclear Generation Capital Proposal, \$ Millions

	Recorded	Recorded	Forecast	Forecast	Forecast
	2009	2010	2010	2011	2012
Miramar Plant Enhancements	0.037	1.344	0.050	0.500	0.100
Palomar Plant Enhancements	4.600	7.759	7.250	11.500	4.900
Palomar Critical Services Engine	0.387	0.741	2.500		
Escondido Black Start	0.012		2.200		
Palomar Gas Turbine Compressor Upgrade					10.000
Totals	5.000	9.800	12.000	12.000	15.000

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Six areas of non-nuclear generation capital budget codes have recorded amounts presented in a supplemental workpaper related to the master data request, but they are neither explained in Baerman's testimony nor are they explained in his workpapers. The areas are: generation capital tools (budget code 6), MEF II³ (budget code 6023), Palomar plant chiller add⁴ (budget code 6025), thermal energy storage (budget code 8026), solar powered demo project⁵ (budget code 8027), and El Dorado acquisition⁶ (budget code 10032). Presumably, because there are no dollars requested in 2012. SDG&E did not explain these recorded generation projects. It would have been helpful for SDG&E to give a clearer picture of the recent past expenditures and how they relate to the current request.

³ MEF II had over \$45 million in recorded amounts from 2007-2010. GRC testimony in A. 06-12-009 did not suggest such large capital investments over this time period. That testimony shows budget code 20 for Miramar energy facility and that code had \$35 million in capital projects for the Miramar energy facility as well. This is over \$80 million invested in the facility over the last 5 years.

⁴ Palomar plant chiller had over \$15 million in recorded amounts from 2007-2010; testimony in A.06-12-009 estimated amounts near \$10 million.

⁵ The solar powered demo project had \$362,000 in recorded amounts for 2009 and 2010.

⁶ El Dorado acquisition item had \$12,000 in recorded amounts for 2010. Although prior year recorded amounts were expected, there were none listed in the recorded documents provided in capital workpapers supplement A-12.

1 **Nuclear**

2 SDG&E requests the following for SONGS capital additions before AFUDC:

3 \$35.1 million in 2010, \$38.0 million in 2011, and \$45.7 million in 2012.⁷ SDG&E is
4 representing that the SDG&E capital portion is a reflection of their proportional
5 ownership of the dollars requested in the SCE 2012 GRC. Since DRA made
6 downward adjustments to the SCE SONGS capital request in A.10-11-015,⁸ those
7 proportional adjustments are also reflected in this proceeding. In SDG&E SONGS
8 capital workpapers,⁹ it is shown that the capital dollars are loaded with SCE
9 overheads¹⁰ and an SDG&E A&G loading. The latter additional loading of 4.49%
10 onto the 20% fully loaded capital amount derived from SCE does not appear to
11 comport with D.09-03-025. SDG&E testimony does not show how the 4.49%
12 loading is consistent with prior Commission decisions, so DRA opposes it. The
13 seven lines of testimony given towards the capital portion totaling \$118.8 million
14 barely support the request. But for the prior Commission decisions and the current
15 SCE GRC proceeding, we would not know much about the capital request. There
16 are footnotes included in the three pages of relevant workpapers that suggest some
17 adjustments were made,¹¹ some assumptions were taken from the SCE GRC filing,
18 and some current billing rates are being utilized, but no detailed references or
19 linkages to CPUC decisions were given to validate or cross-reference them. As a
20 result, DRA makes its recommendation in the Results of Operations (RO) model for
21 a lower SONGS rate base¹² and the exclusion of the 4.49% A&G adder.

22 DRA recommends the following for SONGS' capital expenditures:

23 2010, \$31.0 million; 2011, \$30.8 million and \$34.3 million in 2012.

⁷ Exh. SDG&E-8, p. MLD-11, Table MLD-7.

⁸ See Truman Burns nuclear generation cost testimony in A. 10-11-015; Exh. DRA-8.

⁹ See Appendix A of Exh. SDG&E-08 or SDG&E-8 capital workpapers, pp. 4-6.

¹⁰ A&G labor and non-labor, pension and benefits, and payroll taxes.

¹¹ See footnotes to Exh. SDG&E-8, pp. MLD-A2-A4.

¹² Intended to be consistent with DRA positions in the SCE GRC (Exh. DRA-8).

1 **II. SUMMARY OF RECOMMENDATIONS**

2 The following summarizes DRA's non-nuclear and nuclear generation
3 recommendations:

- 4 • Allow \$0 for Miramar plant operational enhancements.
- 5 • Allow \$0 for Palomar Plant operational enhancements.
- 6 • Allow \$741,000 for the critical services engine.
- 7 • Allow \$0 for the Escondido black start.
- 8 • Allow \$0 for gas turbine compressor upgrade.

9 Table 12-2 compares DRA's and SDG&E's TY 2012 forecasts of non-nuclear
10 generation capital expenses:

11 **Table 12-2**
12 **Non-Nuclear Generation Capital Expenses for TY 2012**
13 **(In Thousands of 2009 Dollars)**

Description (a)	DRA Recommended (b)	SDG&E Proposed ¹³ (c)	Amount SDG&E>DRA (d=c-b)
Miramar enhancements	\$0	\$100	\$100
Palomar enhancements	\$0	\$4,900	\$4,900
Gas Turbine compressor upgrade	\$0	\$10,000	\$10,000

14 Table 12-3 provides a more detailed comparison of DRA's and SDG&E's
15 2010-2012 forecasts of non-nuclear generation capital expenditures:

16 **Table 12-3**
17 **Non-Nuclear Generation Capital Expenditures for 2010-2012**
18 **(In Thousands of Nominal Dollars)**

Description	DRA Recommended			SDG&E Proposed ¹⁴		
	2010	2011	2012	2010	2011	2012
Miramar enhance	\$	\$0	\$0	\$50	\$500	\$100
Palomar enhance	\$	\$0	\$0	\$7,250	\$11,500	\$4,900
Palomar critical services engine	\$741	0	0	\$2,500	0	0
Escondido Black Start	0	0	0	\$2,200	0	0
Palomar gas turbine upgrade	0	0	0	0	0	10,000
Total	\$741	\$0	\$0	\$12,000	\$12,000	\$15,000

¹³ Exh. SDG&E-7, Ch. III, p. DSB -15, Table TSB-8.

¹⁴ Exh. SDG&E-7, Ch. III, p. DSB -15, Table TSB-8

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2 Table 12-4 below shows DRA’s recommended SONGS capital expenditures
3 versus SDG&E’s proposed expenditures.

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Table 12-4
SONGS Generation Capital Expenditures for 2010-2012
(In Millions of Nominal Dollars)

	DRA Recommended			SDG&E Proposed ¹⁵		
	2010	2011	2012	2010	2011	2012
SONGS	\$31.0	\$30.8	\$34.3	\$35.1	\$38.0	\$45.7

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9 **III. MIRAMAR PLANT OPERATIONAL ENHANCEMENTS**

10 SDG&E’s non-nuclear generation workpapers for Miramar plant operational
11 enhancements (under budget code 8) suggest that this budget request is geared
12 towards the engineering and installation of a water treatment plant for both
13 combustion turbines and an upgrade of the continuous emissions monitoring system
14 (CEMS).¹⁶ Bear in mind that Miramar’s two 46.5 MW CT’s have only been on line
15 since 2005 and 2009.

16 Under the caption of schedule, the workpaper reads as follows, “Capital
17 additions and improvements are continuous at the Miramar energy facility. All
18 capital projects are conducted with the intent of increasing the overall reliability,
19 efficiency and safety of the plant. Capital projects of this nature are ongoing and will
20 be selected and completed on an as needed basis.”

21 SDG&E’s workpapers¹⁷ suggest that CEMS is software. Therefore, it is not
22 clear why this portion of the proposed upgrades isn’t in SDG&E’s IT exhibit. Under
23 the project justification heading, SDG&E discloses that it is seeking to replace its

¹⁵ Exh. SDG&E-8, p. MLD-11, Table MLD-7.

¹⁶ Exh. SDG&E-8 workpapers, p.DSB-CWP-1 CEMS monitors emissions output. By law, every plant must perform a yearly RATA (relative accuracy test audit) on their CEMS.

¹⁷ In the project justification section of the workpaper for budget code 8.

1 current software with the software used at the Palomar facility. Its best reason for
2 such a replacement is the proclaimed dissatisfaction of the San Diego Air Pollution
3 Control District (SDAPCD). However, no documentation of said dissatisfaction or
4 emissions related outages is presented. No letters or notices from the SDAPCD are
5 included in the workpapers to substantiate the need for replacement software. While
6 SDAPCD may be dissatisfied with the presentation of data from the plant, archiving
7 and accuracy, it has not been shown that replacement is the best solution. Were
8 modules or post-processing of the data from the current software done to cure the
9 problem? Nor has it been shown that the product at the Palomar facility is the least-
10 cost option. What other vendor products have been considered? The effort given to
11 support the request barely passes the smell test. This comes across as a project
12 that is potentially helpful but not necessary. It certainly hasn't been demonstrated
13 that alternative solutions were considered and that the Palomar software was the
14 least-cost solution.

15 As for the water treatment plant installation, a cost-benefit analysis is not
16 presented. While asserting that the current process from an outside vendor is costly
17 and inefficient, no numbers were presented for validation or comparison with the
18 proposed solution. It was not shown that SDG&E has a thorough understanding of
19 the design and construction of the water treatment facility. Nor did SDG&E include
20 supporting drawings, specifications or vendor documents in the workpapers. Of
21 greater concern, though, was the lack of a cost-benefit analysis on an upgrade to a
22 company-owned facility. There was no showing that labor costs plus capital and the
23 O&M associated with a water treatment plant, loaded with all the overheads, is the
24 least-cost option.

25 It is difficult to understand how these projects are the best capital projects
26 capable of increasing reliability, efficiency and safety. Based upon SDG&E's
27 showing or lack thereof, DRA recommends zero dollars for this budget code.

1 Center, one could reason that it would be ideal if all the software systems (including
2 those for CEMS) are identical.

3 **Is Miramar Being Run Too Much?**

4 SDG&E has owned one CT from Miramar since 2005 and the second CT
5 became operational in 2009. The Miramar units are identified as peakers. The
6 combined capacity of the two units is 92 MW. These are units that were expected to
7 operate at a low capacity factor and to primarily meet summer peaking needs and to
8 mitigate intermittent resources.²¹ Because the second unit came on line in the third
9 quarter of 2009, it is best to analyze years 2006-2008 to assess what historically
10 was happening. Production in years 2006-2008²² show a large increase in 2008.
11 The plant ran for 500 hours in 2006.²³ In 2008, though, the plant ran 45% more
12 than it did in 2006. Looking at the doubling of capacity that took place in 2009, the
13 total production at the site was 75% more than the prior year and that was assuming
14 a third quarter doubling of capacity. Recorded production for 2010 was not
15 available.

16 SDG&E presents forecasted production at Miramar for years 2010-2012 in
17 the Master Data Request. This information suggests that the plant is being targeted
18 for more and more production. Why the increases after 2010? While it is reasonable
19 for SDG&E to want to recoup its purchase costs sooner rather than later, a careful
20 budgeting of capital and expenses is also warranted. DRA recommends that
21 Miramar's production levels should be evaluated in future GRC's, particularly given
22 what witness Baerman said in his April 2007 testimony, "Since Miramar is a peaking
23 plant and as such only sees a few hours of operation per month, that facility is not
24 expected to require any major maintenance or overhauls for several years."²⁴ A
25 review of more granular production levels is warranted. Because there are a lot of

²¹ <http://docs.cpuc.ca.gov/efile/A/84280.pdf> pp. 10 and 13.

²² Master Data Request, ch. 2, Q.1.

²³ http://ag.ca.gov/globalwarming/pdf/comments_Miramar.pdf p. 2.

²⁴ A.06-12-009, Exh. SDG&E-2-E dated April 2007.

1 potential generating sources being considered for tolling or acquisition or RPS and
2 the estimated date of Sunrise Powerlink completion is currently June 2012, the
3 production of the peakers ought to be given serious consideration when evaluating
4 capital projects. If excess supply situations materialize,²⁵ capital investments
5 towards upgrades ought to be given the strictest scrutiny. It is also worth mentioning
6 that ISO reports suggest that load forecasts are down²⁶ for the San Diego sub-area
7 for 2011; there was an increase in generation for the southern region of 1106.5
8 MW;²⁷ and the release of South Bay units from their reliability must run (RMR)
9 status.²⁸ Therefore, DRA cannot support the capital request SDG&E is positing for
10 generation.

11 **IV. PALOMAR PLANT OPERATIONAL ENHANCEMENTS**

12 SDG&E's workpapers suggest that this budget request is geared towards
13 plant and facility enhancements to the Palomar Energy Facility.²⁹

14 Under the caption of schedule, the workpaper reads as follows, "Capital
15 additions and improvements are continuous at the Palomar Energy Center and are
16 conducted as issues with specific equipment arise or as time permits."

17 With regard to details on the proposed projects for consideration, SDG&E's
18 workpapers describe ten projects and show the combined cost of the ten projects in
19 2009-2012. A subsequent data request³⁰ revealed an amount of \$11,880,000 for
20 these 10 projects. This doesn't harmonize with the workpapers that show total costs
21 for the 10 projects to be \$28,310,000. Since the TY amount requested is

²⁵ California Energy Markets #1137, summary of the ISO filing in R.10-05-006 related to 33% RPS, p. 5.

²⁶ <http://www.caiso.com/2788/2788ab565da00.pdf> see page 4.

²⁷ <http://www.caiso.com/2777/27778a322d0f0.pdf> see table 2.5.

²⁸ <http://www.caiso.com/283c/283c82eb2b9a0.pdf>

²⁹ Exh. SDG&E-7 workpapers, p.DSB-CWP 2 through 4.

³⁰ SDG&E response to DRA data request 72, Q.3.

1 \$4,900,000, it is difficult to extrapolate the meaning of the data request response.
2 Nevertheless, DRA uses it as a guide when determining its ultimate
3 recommendation for this budget code.

4 **A. Overview of SDG&E's Request³¹**

5 The ten projects are: transformer breaker monitoring system, closed cooling
6 water system upgrade, cooling water biocide upsize, Mark IV security system
7 upgrade, Heat Recovery Steam Generator (HRSG) elevator and bridge, DGP relay
8 upgrade, purchase of a GSU transformer, purchase of a steam turbine gantry crane,
9 steam turbine last stage blade replacement, and instrument air purge system for iso-
10 phase bus ducts upgrade.

11 **B. Recorded Amounts**

12 Table 12-6 below presents recorded amounts for budget code 9. Since
13 SDG&E acquired Palomar on March of 2006, there are no recorded numbers for
14 2005. According to the CEC, the plant began commercial operation April 1, 2006.³²

15 **Table 12-6**
16 **2005-2010 Recorded / TY 2012 Forecast**
17 **(in Thousands of 2009 Dollars)**

Description	2005	2006	2007	2008	2009	2010
Budget Code 9	\$	\$1,431	\$1,049	\$1,440	\$4,660	\$7,759

18 Source: 2005-2009 data from Exh. SDG&E-capital workpapers supplement A-3 and
19 spreadsheet provided on April 11, 2011 with recorded 2010 data.

20 Recorded capital amounts were going up significantly in 2009 and 2010,
21 when actual production amounts were decreasing from a high in 2008. Lower
22 production is commensurate with decreasing demand reporting³³ in the San Diego
23 area.

³¹ Exh. SDG&E-8 capital workpapers, pp. DSB-CWP 2-3.

³² <http://www.energy.ca.gov/sitingcases/palomar/>

³³ <http://www.caiso.com/283c/283c82eb2b9a0.pdf>

1 **C. Detail of the Request**

2 Based upon SDG&E’s workpapers, there is not a detailed showing of the
3 individual costs of the ten projects. DRA requested further granularity of the cost
4 information related to the projects in this budget. However, what DRA received was
5 an estimated cost for 10 projects that did not add up to the number that was cross
6 referenced with the GRC workpapers. If DRA were to accept every project request
7 (which is does not) but would apply the ratio of test year amounts to total amounts
8 for 2010–2012, DRA would support a recommendation of \$2.461 million for this
9 budget code (20.72% x \$11.88 million.) Instead DRA is left to decipher the paltry
10 descriptions proffered in the testimony for \$23.65 million in potential capital
11 investments for 2010–2012. DRA discusses the ten projects in order of decreasing
12 costs.

13 **Purchase of a GSU Transformer**

14 The estimated cost of this item is \$4 million.³⁴ The purported need for this
15 item is to have a backup transformer on hand in case of failure and the assertion
16 that there is a minimum of one year lead time for the replacement or repair of a
17 failed transformer unit. What is not offered is whether or not having a replacement
18 transformer on hand is a standard practice, the probability of a failure, or what repair
19 times are typically needed for different types of failure. One must develop a better
20 record for having a \$4 million asset sitting idly by. When SDG&E purchased
21 Palomar from a third party in 2006, why was there not a spare transformer in the
22 deal? What record evidence is there to show the risk and reward of having or not
23 having a spare transformer? Are there transformers at nearby power plants that
24 could be borrowed or exchanged? Are there other arrangements beside outright
25 ownership that could work? What is the average lifetime of a transformer? Does a
26 spare make sense in the early phase of a transformers’ life? With the best
27 maintenance practices, what is the expected longevity of a new transformer? Does
28 early loss of a new transformer suggest inferior maintenance? Is there a rebuilt

³⁴ SDG&E response to DRA data request 72, Q 3.

1 market for transformers? In this economy, is a year really the time frame for finding
2 a suitable replacement? For the above reasons, DRA opposes SDG&E's
3 transformer request.

4 **Purchase of a Steam Turbine Gantry Crane**

5 The estimated cost of this item is \$2 million.³⁵ The two sentence discourse
6 on the acquisition states that "The steam turbine gantry crane will be utilized for all
7 lifting work associated with the STG, including the lifting during minor and major
8 outages. Purchase of the gantry crane will eliminate the need for crane rental for
9 STG repairs." While this may be true, there were no workpapers to substantiate the
10 claim. Even a hypothetical rental estimate of hours and rates would have been
11 helpful, but no such effort was made to help the reader understand the necessity to
12 have a \$2 million asset sit idly by. DRA opposes SDG&E's request to purchase a
13 steam turbine gantry crane.

14 **Steam Turbine Last Stage Blade Replacement**

15 The estimate for this item is \$2 million. Again, there is another two sentence
16 write up about the project. "The current STG last stage blades are eroding due to
17 normal wear and tear and must be replaced when wear is beyond acceptable limits.
18 Replacement of the blades is necessary to restore proper functioning and design
19 efficiency of the steam turbine." While DRA agrees with the logic (i.e., hardware
20 degrades, it needs to be replaced), the state of the blades has not been proven.
21 How often do inspections of the blades take place? When was the most recent
22 observation taken? Is there rust, chipping, buildup or some other form of disrepair?
23 Are patches or other forms of life extension available? Where are the inspection
24 findings about the state of the blades in question? If so, could documents or photos
25 have been presented to show the current physical state? Where are the root cause
26 analyses that correlate outages to this blade erosion? The mere statement that
27 blades are eroding is an obvious statement of fact that does not warrant an
28 immediate \$2 million action. Isn't this a fairly new plant? Do revised maintenance

1 practices need to occur? SDG&E has made no showing as to a normal frequency of
2 blade replacements, nor has it impressed upon DRA that normal wear and tear is
3 troublesome. Is there a standard practice that relates to blade replacement? (i.e., a
4 standard practice for what level of attenuated efficiency or outage frequency is
5 reasonable for taking a unit offline for blade replacement). Could this effort be better
6 timed to other capital projects on the same unit? There are many questions not yet
7 answered by the applicant and as such, DRA recommends no dollars. SDG&E has
8 made no presentation as to what defines acceptable limits of wear nor of what the
9 plant manuals prescribe for the operations of a plant with increasing wear on the last
10 stage blades.

11 **Transformer Breaker Monitoring System**

12 The description of this item estimated to cost around \$1.5 million suggests
13 that the money would procure and install dynamic rating monitors on the
14 transformers and breakers at Palomar Energy Center. The monitors allow for
15 continuous real-time monitoring of the transformers and breakers. While SDG&E
16 says that the technology will help to maintain the longevity of the equipment and will
17 help to avoid unanticipated and costly outages, it does not describe how this is
18 accomplished. DRA had to read about it in the Smart Grid Deployment Plan.³⁶
19 There were no specification sheets offered on dynamic rating monitors. There was
20 no identification as to how many transformers or breakers were going to be
21 equipped with this technology. There was no cost-benefit analysis showing
22 assumptions regarding outages averted or capital replacement costs deferred. How
23 does this relate to smart grid investments -- how can we be assured that cost
24 duplication is not represented? DRA opposes SDG&E's request for a transformer
25 and breaker monitoring system at this time.

26

(continued from previous page)

³⁵ SDG&E response to DRA data request 72, Q 3.

³⁶ See page 77 and 310 of SDG&E's Smart Grid deployment Plan;
<http://sdge.com/regulatory/documents/a-11-06-006/Deployment%20Baseline.pdf>

1 **Cooling Water Biocide Upsize**

2 This project, estimated at \$680,000³⁷, would replace the “undersized” sodium
3 hypochloride and sodium bromine tanks and pump skids with new larger tanks and
4 pump skids. How has the plant been functioning for the past 5 years? If the
5 Palomar cooling system is a 1.3 million gallon system, what is the current sizing of
6 the tanks in question? What are the proposed new sizes? What is to be done with
7 the abandoned plant? How do the estimates compare with other tank replacement
8 costs? Were estimates derived from bids, unit cost data, water company estimates?
9 DRA opposes SDG&E’s request for Palomar cooling water biocide improvements.

10

11 **HRSG Elevator & Bridge**

12 This project, estimated at \$500,000, would install an industrial elevator from
13 ground level to the top of HRSG 2 and would construct a permanent bridge between
14 HRSG 1 and HRSG 2. SDG&E’s testimony suggests that the installation would,
15 among other things, address aging workforce issues and reduce the likelihood of
16 injury or heat stress. It appears that the primary reason relates to the plant being in
17 SDG&E’s blackstart/system restoration plan. It has not been shown how this is
18 necessary. Not all plants have this convenience. This projects’ necessity has not
19 been shown. DRA opposes SDG&E’s request for a HRSG elevator and bridge.

20 The remaining 4 projects are upgrade projects that cost under \$500,000
21 each. For instance, the current security system should comply with NERC
22 standards, so the MARK IV system has not been justified or explained. Are the “new
23 cyber security regulations” alluded to related to Critical Infrastructure Protection
24 (CIP)? Is the MARK IV, the least-cost solution for meeting security needs? Is the
25 MARK IV the best product for data gathering? Why is a new control system
26 necessary? Where are the examples on how the current system is limited and
27 MARK IV provides those limitations?

28 Based upon the presentations given, DRA recommends \$0 for the remaining
29 4 projects

³⁷ SDG&E response to DRA data request 72, Q 3.

1 **V. PALOMAR ENERGY CENTER COMPRESSOR UPGRADES**

2 Table 12-7 below shows forecast compressor upgrade costs for Palomar.

3 **Table 12-7**
4 **2005-2009 Recorded / TY 2012 Forecast**
5 **(in Thousands of 2009 Dollars)**

Description	2005	2006	2007	2008	2009	2012
Budget code 9031	\$0	\$0	\$0	\$0	\$0	\$10,000

6 Source: 2005-2009 data from SDG&E’s capital workpapers supplement A. No recorded
7 dollars in 2010

8 In its testimony, SDG&E presents only the following three sentences to
9 substantiate a \$10 million investment in 2012:

10

11 The gas turbine compressor upgrades will be completed as part of the
12 major maintenance outage in the 4th quarter of 2012. The purpose of these
13 upgrades is to correct known deficiencies in the compressor design that
14 may result in catastrophic compressor failures and turbine damage. In
15 addition, the upgrades will improve the gas turbine compressors’ overall
16 operating reliability.
17

18 SDG&E workpapers give more details on the upgrades that SDG&E is
19 proposing to install, but not a great deal more. Piecing together the workpaper
20 section called “project justification,” the responses from the master data request,
21 responses to DRA data request 72, and information from the CEC, the turbine
22 manufacturer has identified technical concerns with their product, some of which
23 concern the compressor (in the F class series.) Periodic notifications come from the
24 vendor to the purchasers that give guidance about a variety of concerns (i.e.,
25 inspection recommendations, maintenance advice/warnings, etc.) Also contained in
26 the notifications are “levels of concern” and various timeframe suggestions as to how
27 soon an owner should investigate or address a concern (i.e. at the next shut down,
28 during the next inspection cycle, etc).

29 Given the paucity of documentation, SDG&E has not proven the need for this
30 \$10 million expenditure. Upgrades should not be necessary on a plant that became

1 operational in 2006. The technical notices made the case for testing.³⁸
2 Furthermore, SDG&E offered no explanation as to why it selected a particular
3 upgrade package versus others. Could a lesser package be selected?

4 While it may make some sense to take advantage of the “major outage in 4th
5 quarter 2012” in terms of 2012 activity, SDG&E did not discuss what it has been
6 doing with regard to these notices in its annual 3 week maintenance outage events.
7 What evidence is there as to the derating of the plant related to the “weaknesses
8 and deficiencies³⁹ or other negative implications of the weaknesses?” What were
9 the statistics cited by the vendor related to the probability of these deficiencies?
10 Would improved O&M also cure the problem? What is the operational curve of a
11 compressor in terms of performance and age? If the vendor has information about
12 the fleet of installed 7FA compressors, how does the age of SDG&E’s site compare
13 with the average age of the fleet the vendor has analyzed? Do all of the proposed
14 actions need to be taken during the major outage? What can be deferred? DRA
15 would not recommend the full amount of \$10 million for 2012. Without proper
16 detailed cost information for each of the activities or alternative packages that might
17 have been considered, DRA recommends \$0.

18 Note, for the two remaining capital projects in 2010, DRA recommended the
19 recorded 2010 amounts: \$741,000 for budget code 8028 (Palomar Energy Center
20 critical services engine) and \$0 for budget code 8029 (Escondido Black Start.) DRA
21 doesn’t oppose the small expenditures made in 2010 because they relate to
22 emergencies. Scenarios were not posited to show the benefits of the investments
23 nor were cost benefit analyses presented to show the reasonableness of these
24 ratepayer investments.

³⁸ Sempra response to DRA data request 72, Q.12; SDG&E asserts this information is confidential.

³⁹ “deficiencies and weaknesses” were referenced in the workpaper of budget code 9031 in SG&E-07-CWP.

1 **VI. EXCITING TO BE BACK IN THE GENERATION BUSINESS**

2 SDG&E has acquired both peaking and baseload facilities. It is also
3 noteworthy that the 480 MW El Dorado power plant will be acquired in the 4th
4 quarter of 2011⁴⁰. As expected, costs (capital and O&M) related to the El Dorado
5 facility should be recorded in the Non-fuel Generation Balancing Account (NGBA)⁴¹
6 and included in SDG&E's annual advice letter filing.

7 Other filings that relate to the acquisition of generation are: A.11-01-004 for
8 acquisition of 42.2 MW of El Cajon energy facility and A.11-05-023 for 450 MW at
9 three sites through tolling agreements. SDG&E's next GRC filing should provide a
10 more thorough presentation of the supply mix it has in its portfolio, including those
11 supplies acquired through tolling and the presentation should reference capacity
12 analyses by the California ISO.

13 **VII. CONCLUSION**

14 DRA presents its recommendations for generation non-nuclear capital spending.
15 SDG&E has fairly new generation and therefore, DRA supports only limited
16 investments in them at this time. If regulatory concerns from other jurisdictions are
17 of concern, SDG&E has the burden of proof to show these concerns warrant the
18 investment option SDG&E is selecting. Furthermore, SDG&E has the burden to
19 show that the option it selected is among a set of reasonable choices considered.

⁴⁰ Master Data Request, Ch. 2, Q.2.

⁴¹ D.07-11-046, p. 17.

1 **VIII. NUCLEAR GENERATION CAPITAL COSTS**

2 This section presents DRA's analyses and recommendations regarding
3 SDG&E's forecasts of nuclear generation capital costs for 2010-2012.

4

5 **Background**

6 The San Onofre Nuclear Generating Station (SONGS) is located just south of
7 San Clemente in northern San Diego County. The plant⁴² contains two operating
8 nuclear reactors built in the 1980s with a combined capacity of 2200 MW. SDG&E is
9 a 20% owner of the facilities; SCE is 78.21% owner⁴³.

10 Decision D.09-03-025 adopted a methodology for calculating the cost sharing
11 of SONGS-related costs (both capital and O&M) between SCE and SDG&E.

12 Therefore, a majority of the SONGS related costs are litigated in the SCE GRC,⁴⁴

13 There are, however, additional categories of costs related to SONGS that are
14 litigated in the SDG&E GRC. The \$1.733 million request for additional operations
15 and management costs are discussed in exhibit DRA-05. To achieve a total
16 revenue requirement for SONGS in 2012⁴⁵, one must add all of the following:

17	Operations and Maintenance (SCE and SDG&E GRC)	\$124,015,000
18	Depreciation (SCE and SDG&E GRC)	14,467,000
19	Taxes other than on income (SCE and SDG&E GRC)	2,424,000
20	Income Taxes (SCE and SDG&E GRC)	8,060,000
21	Return (rate base times rate of return)	14,656,000

⁴² Unit 1 began service in 1968 and was retired in 1992.

⁴³ City of Riverside owns 1.79%.

⁴⁴ SCE application A.10-11-015 before Judge Darling. Pursuant to decisions D.04-07-022, D.06-05-016 and D.09-03-025.

⁴⁵ See figure 1 in Exh. SDG&E-8, p. MLD-4 and Table MLD-2 on p. MLD-3.

1 REVENUE REQUIREMENT \$163,621,000

2

3 Of those costs to be litigated specifically in the SDG&E GRC⁴⁶, three items
4 relate to O&M and the last relates to escalation. It is not easy to address the capital-
5 related costs related to SONGS without relating it to the SCE GRC. Therefore, DRA
6 started with Exhibit SDG&E-8 workpapers related to capital costs for SONGS (MLD-
7 CWP-4 through MLD-CWP-6) and made downward capital adjustments that 1)
8 reflect the proposed adjustments in Exhibit DRA-8 in A.10-11-015 and 2) removed
9 the 4.49% SDG&E A&G capital adder.

10 For example, for 2012, DRA developed its estimate with the following
11 calculation:

12 \$45.7 million – \$9.82 million⁴⁷ – 4.49%⁴⁸ adder= \$34.3 million

13 Conclusion

14 DRA recommends the following for the capital additions portions of SONGS:

- 15 • 2010: \$31.0 million
16 • 2011: \$30.8 million
17 • 2012: \$34.3 million

18

⁴⁶ Exh. SDG&E-08, p. MLD-5.

⁴⁷ 20% of the difference that DRA recommended in that year.

⁴⁸ DRA workpapers used a 95.51% factor to represent the removal of the adder.