

## DOCKETED

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Application No.: A.14-07-009  
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Date: October 29, 2014  
Witness: Scott Valentino

Application of San Diego Gas & Electric Company  
(U 902 E) for Authority to Partially Fill the Local Capacity  
Requirement Need Identified in D.14-03-004 and Enter  
into a Purchase Power Tolling Agreement with Carlsbad  
Energy Center, LLC.

Application 14-07-009  
(Filed July 21, 2014)

**PREPARED REBUTTAL TESTIMONY OF  
SCOTT VALENTINO  
ON BEHALF OF  
CARLSBAD ENERGY CENTER LLC**

**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**

**October 29, 2014**

1   **PREPARED REBUTTAL TESTIMONY OF**  
2   **SCOTT VALENTINO**  
3   **ON BEHALF OF**  
4   **CARLSBAD ENERGY CENTER LLC**

5   **Q.     Please state your name, title and business address.**

6   A.     My name is Scott Valentino. I am presently employed by NRG Energy, Inc. (“NRG”) as  
7   Vice President, Development for the West Region. I am responsible for development of the  
8   Carlsbad Energy Center. My business address is 5790 Fleet Street, Suite 200, Carlsbad,  
9   California 92008.

10 **Q.     Did you sponsor opening testimony in this proceeding?**

11 A.     Yes. I sponsored opening testimony in this proceeding on October 15, 2014 on behalf of  
12 Carlsbad Energy Center LLC (“Carlsbad Energy”) (“Opening Testimony”).

13 **Q.     Are your professional background and qualifications described in your Opening**  
14 **Testimony?**

15 A.     Yes. My professional background and qualifications are described on pages 1-2 of my  
16 Opening Testimony.

17 **Q.     On whose behalf are you testifying in this rebuttal testimony?**

18 A.     I am testifying on behalf of Carlsbad Energy. As explained in my Opening Testimony,  
19 Carlsbad Energy is the counterparty to the power purchase tolling agreement (“PPTA”) with San  
20 Diego Gas and Electric Company (“SDG&E”) that is the subject of SDG&E’s application in this  
21 proceeding.

22 **Q.     What is the purpose of your rebuttal testimony?**

23 A.     Part I of my rebuttal testimony responds to the opening testimony of Keith Derman on  
24 behalf of Pio Pico Energy Center LLC (“Pio Pico Testimony”). Part II of my rebuttal testimony

1 responds to the opening testimony of Robert Sarvey on behalf of Californians for Renewable  
2 Energy, Inc. or CARE (“CARE Testimony”).

3 **PART I. RESPONSE TO PIO PICO TESTIMONY**

4 **Q. What is your response to the Pio Pico Testimony?**

5 A. In the Pio Pico Testimony, Mr. Derman proposes to install a new fourth General Electric  
6 (“GE”) LMS 100 (“LMS 100”) unit adjacent to the facility being constructed by Pio Pico Energy  
7 Center LLC (“Pio Pico”), and to modify the Carlsbad Energy Center by eliminating one of its six  
8 LMS 100 units. Modifying the Carlsbad Energy Center to accommodate Pio Pico’s desire for a  
9 fourth unit would delay the Carlsbad Energy Center project schedule. The PPTA specifies a  
10 project design consisting of six, not five, LMS 100 units. As explained in my Opening  
11 Testimony, Carlsbad Energy is proceeding with development based on that design, and is in the  
12 permit amendment process before the California Energy Commission (“CEC”) to enable  
13 construction of the six LMS 100 unit configuration as a modification to the already approved  
14 Carlsbad Energy Center. Based on the schedule for a Commission decision in this proceeding,  
15 and progress in the CEC’s review of the Petition to Amend that Carlsbad Energy filed on May 2,  
16 2014, Carlsbad Energy is on track to start construction at the end of 2015 and commence  
17 commercial operation of all six units by November 1, 2017.

18 To accommodate Pio Pico’s proposal, it would be necessary to amend the PPTA. SDG&E also  
19 likely would need to modify its application in this proceeding to reflect the modified PPTA. It  
20 also would be necessary to modify the Petition to Amend, thereby delaying the CEC process to  
21 afford time for CEC staff to analyze another change in project design. Extending the process for  
22 Commission approval of SDG&E’s application and the process for CEC approval of the Petition  
23 to Amend would delay the construction start date. This likely would delay the commencement  
24 of commercial operation beyond the end of 2017, when the Encina Power Station will retire.  
25 Thus, Pio Pico’s proposal would delay our online date.

26 In addition, it is extremely unlikely that Pio Pico could achieve commercial operation for its own  
27 new fourth unit by November 1, 2017. As acknowledged in the Pio Pico Testimony, Pio Pico  
28 withdrew its interconnection request for the fourth unit from the California Independent System

1 Operator (“CAISO”) interconnection process. To obtain a CAISO interconnection for a fourth  
2 unit, Pio Pico must reapply. The next opportunity is the Cluster 8 process opening in April 2015.  
3 There is an approximately two-year study process before execution of an interconnection  
4 agreement, and work on the transmission interconnection and Cluster 8 network upgrade  
5 facilities would not start until after the interconnection agreement is executed. Thus, the  
6 schedule for the interconnection process alone would make it very difficult, if not impossible, to  
7 complete the interconnection facilities for the new unit prior to the end of 2017.

8 Pio Pico also would need to obtain CEC approval for a new fourth unit. Pio Pico has not yet  
9 started the CEC permitting process. The time needed to obtain CEC approval also makes it  
10 highly unlikely that Pio Pico could bring a new fourth unit online by the time the Encina Power  
11 Station retires at the end of 2017.

12 **Q. Would adding a fourth unit at Pio Pico instead of the sixth unit at the Carlsbad**  
13 **Energy Center provide benefits to ratepayers as stated in the Pio Pico Testimony?**

14 A. This seems unlikely. The claim that Pio Pico could modify its project to add a fourth unit  
15 more cost effectively than Carlsbad Energy can include a sixth unit is fundamentally flawed. Pio  
16 Pico claims the ability to use “economies of current plant design” but this concept does not apply  
17 when adding a new unit to an already built power plant. In contrast, there is synergy value in  
18 retaining the sixth unit at Carlsbad Energy Center and building the six-unit plant as proposed.  
19 All six units are being permitted and procured at the same time, allowing Carlsbad Energy to  
20 negotiate pricing with GE for all six units at once. All six units will be installed through a single  
21 site mobilization and construction effort, with installation of the turbines sequenced to achieve  
22 commercial operation for the entire plant by November 1, 2017. My expectation is that a sixth  
23 unit can be procured, permitted and built at a lower marginal cost when it is included in a single  
24 multi-unit construction effort, as compared with separately procuring, permitting, and  
25 constructing a single unit as an addition to an already built plant. In addition, Carlsbad Energy is  
26 replacing the 965 MW Encina Power Station with 600 MW of nominal peaking capacity. This  
27 allows for the use of existing gas and transmission infrastructure, as well as emission reduction  
28 credits that support the inclusion of a sixth unit.

1 **Q. What about the other benefits claimed in the Pio Pico Testimony?**

2 A. Eliminating the sixth Carlsbad Energy Center unit and adding a fourth Pio Pico unit also  
3 would not provide the other benefits claimed by Pio Pico. Adding a fourth unit at Pio Pico and  
4 reducing capacity at Carlsbad Energy Center would not provide diversity or reliability benefits to  
5 the system. The basis for this claim is Mr. Derman’s assertion that Carlsbad Energy Center “has  
6 yet to receive the basic required permits and approvals,” but Carlsbad Energy Center is much  
7 more advanced in the interconnection and permitting processes than the proposed fourth unit at  
8 Pio Pico, which right now is only an anticipated offer in SDG&E’s request for offer process.  
9 The Carlsbad Energy Center is on track for commercial operation by November 1, 2017, whereas  
10 the proposed fourth unit at Pio Pico has not yet started power purchase agreement negotiations or  
11 the interconnection or CEC licensing processes.

12 Retaining all six units at Carlsbad Energy Center also provides the benefit associated with  
13 minimizing impacts and taking advantage of common facilities that is cited in the Pio Pico  
14 Testimony. Adding a fourth unit to Pio Pico does not offer the same advantages due to the need  
15 to conduct a second procurement, permitting, site mobilization, and construction effort to add the  
16 fourth unit, which would extend total construction time. As noted above, Carlsbad Energy also  
17 is using existing electric and gas transmission infrastructure and capacity associated with the  
18 retiring Encina Power Station.

19 Pio Pico’s assertion about offering superior locational reliability benefits and renewable  
20 integration benefits is also not true. The Carlsbad Energy Center meets the identified local  
21 capacity requirements (“LCR”) need and will provide state-of-the-art flexible operating  
22 characteristics to meet peak demand and effectively integrate renewable resources.

23 **PART II. RESPONSE TO CARE TESTIMONY**

24 **Q. What is your response to the CARE Testimony addressing the project schedule?**

25 A. The CARE Testimony mistakenly asserts that the Carlsbad Energy Center will not  
26 achieve commercial operation by November 1, 2017. Citing documents filed at the CEC, Mr.  
27 Sarvey testifies that site remediation will take 242 days and construction will take 23 months,  
28 and he concludes that this makes it impossible for the Carlsbad Energy Center to be operational

1 by November 1, 2017. The 242 day schedule applies to demolition of existing unused fuel oil  
2 storage tanks and other structures, and site remediation. The existing CEC license already  
3 authorizes demolition of storage tanks 5, 6 and 7, along with remediation beneath those tanks.  
4 This covers approximately 75 percent of the footprint of the Carlsbad Energy Center. The work  
5 authorized in the existing CEC license is commencing this year, and will be completed by the  
6 middle of 2015, enabling timely site preparation and construction of the Carlsbad Energy Center  
7 following the CEC's decision on the amendment.

8 Carlsbad Energy is in the process of obtaining CEC approval to also demolish and remediate  
9 under storage tank 4, which was not part of the original CEC-approved work for the Carlsbad  
10 Energy Center. The schedule for demolition and remediation on that portion of the site is  
11 accounted for in Carlsbad Energy's construction schedule and will not delay the start of  
12 commercial operation. The sequencing for equipment deliveries and construction will  
13 commence beginning on the north side of the project site, proceeding north to south in the areas  
14 of storage tanks 7, 6, and then 5. As noted above, these areas will be demolished and remediated  
15 by the middle of 2015, allowing construction to commence in those areas in late 2015 as  
16 scheduled. Assuming timely approvals in this proceeding and from the CEC, the Carlsbad  
17 Energy Center will be online by November 1, 2017.

18 Mr. Sarvey also testifies that the Carlsbad Energy Center requires a federal prevention of  
19 significant deterioration ("PSD") permit that will delay the start of construction. This is also not  
20 accurate. The project does not trigger federal PSD permitting, as explained in the rebuttal  
21 testimony of George Piantka on behalf of Carlsbad Energy. The PSD permitting process cited by  
22 Mr. Sarvey will not delay the start of construction or the commercial operation date.

23 **Q: Is CARE correct that the Carlsbad Energy Center PPTA does not comply with**  
24 **SDG&E's authority to procure 600 MW of LCR need?**

25 A. No. Mr. Sarvey points to the cap in the PPTA that prevents SDG&E from paying for  
26 more than 633 MW if output from the facility exceeds that amount. As explained in my Opening  
27 Testimony, six LMS 100 units is a reasonable configuration to meet the 600 MW of LCR need  
28 that SDG&E is allowed to procure from conventional sources. Each unit has a design capacity  
29 of 100 MW, but can exceed that amount in its "new and clean" state under optimal ambient

1 conditions. The maximum limit in the PPTA benefits ratepayers by ensuring that they pay for  
2 what the project actually demonstrates, up to a maximum. If the project tests to a lower amount,  
3 ratepayers pay for the lower amount. The limit in the PPTA works only to the benefit of  
4 SDG&E and its ratepayers as there is no corresponding floor for minimum capacity payments to  
5 Carlsbad Energy, and payments are reduced if the units are not available for energy or ancillary  
6 services at the expected quantities. It is also common for these units to experience some output  
7 degradation as they operate and between maintenance intervals. The degradation is typically in  
8 the range of two to three percent on average. Degradation over time thus would reduce  
9 payments under the PPTA as SDG&E will only pay for the actual tested output.

10 In redacted testimony on page 6, Mr. Sarvey also asserts that the Carlsbad Energy Center does  
11 not provide an adequate minimum availability factor, but this is also not accurate. Capacity  
12 payments under the PPTA are reduced if availability of energy or ancillary services or both cause  
13 the project to fall below a 98 percent availability factor. Under this metric SDG&E and its  
14 ratepayers do not pay for unavailable capacity and Carlsbad Energy has strong incentives to  
15 maintain a consistently high availability factor.

16 **Q. Is CARE correct in asserting that the PPTA's operating limits make the Carlsbad**  
17 **Energy Center a poor fit for the identified need?**

18 A. No. Mr. Sarvey refers to the operating limit of 2,700 hours per year, which is based on  
19 anticipated air permit requirements. This limit means that the Carlsbad Energy Center will have  
20 the capability to operate at an annual capacity factor of almost 31 percent. This affords more  
21 than sufficient operating time for a peaking facility such as the Carlsbad Energy Center, which is  
22 designed to start up and operate only when intermittent renewable generation is not available or  
23 sufficient to meet reliability needs.

24 Mr. Sarvey also surmises that operation could be further limited by new air quality laws such as  
25 new limits on greenhouse gas emissions, or new laws that reduce the allowed number of starts  
26 per day or starts per year, but potential changes in law would affect all new natural gas-fired  
27 generating facilities in the region. Carlsbad Energy Center will continue to be permitted in  
28 conformance with applicable federal, state and local regulations, including any greenhouse gas  
29 regulations to which all new natural gas-fired projects would be subject. In this respect, the



1 Carlsbad Energy Center does not present any unique risks stemming from potential changes in  
2 law. Mr. Sarvey notes that a new limit required by law would be included in the operating  
3 restrictions for the project, but this must occur to ensure compliance with the new law through  
4 inclusion of the new legal limit in the CAISO master file for the project.

5 Mr. Sarvey also criticizes the operating restrictions in the PPTA. As explained in my Opening  
6 Testimony, the GE LMS 100 units do not have a minimum run time, and from a technical  
7 operating perspective the equipment is capable of starts and stops without restriction. The  
8 operating restrictions in the PPTA are included out of caution to ensure compliance with  
9 anticipated emissions limits. Even with these limits, however, the six LMS 100 units will be  
10 more flexible than the original combined cycle configuration for the Carlsbad Energy Center,  
11 and the operating restrictions of the LMS 100 units are less restrictive than the operating  
12 restrictions for any frame based configuration, including that of the original 540 MW Siemens  
13 Flex 10 configuration that the CEC approved for the Carlsbad Energy Center in 2012.

14 **Q. Are there other reasons why the six LMS 100 unit configuration is a better fit for**  
15 **the 600 MW of LCR need than the original combined cycle configuration advocated by**  
16 **CARE?**

17 A. Yes. The six-unit LMS 100 configuration provides much greater operational flexibility  
18 than the 540 MW combined cycle project. For example, the LMS 100 configuration offers a  
19 minimum operating level of 25 MW, whereas the original combined cycle configuration had a  
20 minimum operating level at roughly six times that amount, or 150 MW. At an operating load of  
21 150 MW, the heat rate differential between the simple cycle and combined cycle alternatives is  
22 not meaningfully different. Mr. Sarvey also argues that the combined cycle configuration offers  
23 a lower levelized cost of energy, but levelized cost is not a meaningful comparison because it  
24 assumes much higher capacity factors for the combined cycle configuration. A higher capacity  
25 factor means that the combined cycle plant operates for more total hours in the year, which also  
26 means that it would have higher total emissions each year, including greenhouse gas emissions.  
27 Mr. Sarvey's testimony on page 7 is misleading in this respect because he compares emissions  
28 on a per MW basis, which assumes the two types of plants run at the same annual capacity  
29 factor. Because the LMS 100 units purposely have a lower annual capacity factor and operate as

1 peaking resources, they have lower total emissions of GHG and other regulated substances.  
2 Further, the LMS 100 units provide a much lower cost alternative when the need to operate is for  
3 short intervals multiple times a day, which is what is needed support the integration of renewable  
4 resources.

5 **Q. Are CARE's challenges to the reasonableness of the Settlement Agreement with the**  
6 **City of Carlsbad valid?**

7 A. No. CARE questions how costs associated with relocation of the SDG&E service center  
8 will be passed on to ratepayers, but the Settlement Agreement clearly states that the service  
9 center relocations must be neutral to ratepayers. SDG&E has stated that it will seek Commission  
10 approval to exchange the current site of the service center with a replacement site provided by  
11 the City of Carlsbad, and the Commission will ensure that the accounting and ratemaking  
12 treatment for that exchange is fair to ratepayers. Further, the property transfer is not a sale, but  
13 rather is an in-kind land transfer and the cost of constructing the new service center will be paid  
14 by NRG, up to the maximum amount specified in the Settlement Agreement. However,  
15 relocation of the service center and the land transfer are subject to identification of a suitable site  
16 and Commission approval of SDG&E's request in a subsequent advice letter or application.  
17 These issues and the ratemaking and accounting treatment for the relocation and land transfer  
18 should be addressed in a separate advice letter or application following approval of SDG&E's  
19 application in this proceeding.

20 **Q. Does this conclude your rebuttal testimony?**

21 A. Yes.