

Application No.: \_\_\_\_\_

Exhibit No.: \_\_\_\_\_

Witness: Mark Rothleder

Application of San Diego Gas & Electric Company  
(U902 E) for Authority to Enter into Purchase Power  
Tolling Agreements with Escondido Energy Center,  
Pio Pico Energy Center and Quail Brush Power

Application 11-05-023

**TESTIMONY OF MARK ROTHLEDER  
ON BEHALF OF THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR  
CORPORATION**

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

Application of San Diego Gas & Electric Company  
(U902 E) for Authority to Enter into Purchase Power  
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9 **Q. What is your name and by whom are you employed?**

10

11 **A.** My name is Mark Rothleder. I am employed by the California Independent System  
12 Operator Corporation (ISO), 250 Outcropping Way, Folsom, California as Director,  
13 Market Analysis and Development.

14

15 **Q. Please describe your educational and professional background.**

16

17 **A.** I am the Director of Market Analysis and Development for the ISO. Prior to this  
18 role, I was a Principle Market Developer for the ISO in the lead role in the  
19 implementation of market rules and software modifications related to the ISO's  
20 Market Redesign and Technology Upgrade ("MRTU"). Since joining the ISO over  
21 ten years ago, I have worked extensively on implementing and integrating the  
22 approved market rules for California's competitive Energy and Ancillary Services  
23 markets and the rules for Congestion Management, Real-Time Economic Dispatch,  
24 and Real-Time Market Mitigation into the operations of the ISO Balancing  
25 Authority Area ("BAA"). I also have held the position of Director of Market  
26 Operations. I am a registered Professional Electrical Engineer in the state of  
27 California. I hold a B.S. degree in Electrical Engineering from California State  
28 University, Sacramento. I have taken post-graduate coursework in Power System  
29 Engineering from Santa Clara University and earned a M.S. in Information Systems

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1 from the University of Phoenix. I have co-authored technical papers on aspects of  
2 the California market design in professional journals and have frequently presented  
3 to industry forums. Prior to joining the ISO in 1997, I worked for eight years in the  
4 Electric Transmission Department of Pacific Gas & Electric Company, where my  
5 responsibilities included Operations Engineering, Transmission Planning and  
6 Substation Design.

7

8 **Q. Did you submit testimony on behalf of the ISO in the Long Term Procurement**  
9 **Proceeding (LTPP) R. 10-05-006?**

10

11 **A.** Yes, I did. In that testimony, filed on July 1, 2011, I described the results of the  
12 renewable integration studies that the ISO had performed using four of the CPUC  
13 renewable resource scenarios as well as an ISO-developed scenario. At that time,  
14 the ISO scenario showed a need for new flexible system resources by 2020 but the  
15 CPUC scenarios did not show a need. I explained that the ISO intended to conduct  
16 further studies that would include the results of the once through cooling (OTC)  
17 studies being conducted by the ISO in the 2011-2012 transmission planning process.

18

19 **Q. Did the ISO join in the settlement agreement in the LTPP proceeding?**

20

21 **A.** Yes. The settlement agreement specifically noted that the four CPUC scenarios did  
22 not show a need for new system resources but that the ISO case, as well as the  
23 scenarios modeled by the investor owned utilities (IOUs) did show a need for  
24 additional resources. The parties to the settlement agreement agreed that the ISO  
25 would continue its integration studies and incorporate the results of the OTC  
26 studies, with the assistance of experts from many of the parties. The settlement  
27 agreement provided that the results of these continued studies would be made  
28 available by the end of March, 2012, allowing sufficient time for the Commission to  
29 issue a decision by the end of 2012. At this time, our continued studies are largely  
30 on track with that timetable.

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1 **Q. Please describe the steps that the ISO has taken to continue its renewable**  
2 **integration studies.**

3  
4 **A.** In approximately August, 2011, the ISO conducted a study of renewable integration  
5 needs for 2018, using the ISO's study assumptions and assuming that the OTC  
6 generation was no longer available. This study concluded that there would be a  
7 shortage or gap of 3,570 MW for meeting system-wide capacity needs in California.  
8 Based on this analysis, the ISO Board was advised that there would be system needs  
9 for flexible resources as early as 2018. In January 2012, the ISO relied on these  
10 results to also conclude that there was a significant risk to reliable system operation  
11 if Calpine's Sutter plant was shut down and unavailable by 2018. In September,  
12 2011, the ISO convened a working group of experts representing parties to the  
13 LTPP proceeding and this group has been working to update the studies by: 1)  
14 incorporating the findings of the Local Capacity Requirement studies to determine  
15 residual flexibility needs, 2) incorporating probabilistic analysis to determine the  
16 risk of shortages ensure objective reliability planning criteria of 1 loss of load event  
17 in 10 years is achieved, 3) evaluating other planning reserve margins from prior  
18 cases, 4) performing load following requirement sensitivities to forecast error  
19 assumptions, 5) evaluating whether shortages are observed using 5-minute  
20 simulation, and 6) evaluating regional modeling and coordination. I anticipate that  
21 some preliminary results from the working group's efforts will be made available in  
22 the March 31, 2012 timeframe set forth in the settlement agreement.

23

24 **Q. What have you learned from the continued renewable integration studies thus**  
25 **far?**

26

27 **A.** By incorporating the OTC study results into the renewable integration studies, it is  
28 clear that there will be substantial needs for new, or repowered, generation resources  
29 in several local capacity areas, including the San Diego area, in as early as 2018  
30 when the existing OTC units must comply with the OTC requirements. Our studies

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1 show that load serving entities should be authorized to procure flexible thermal  
2 resources or repowered resources that will meet the SWRCB regulations in the local  
3 capacity areas as soon as possible in the timeframe set forth in the LTPP settlement  
4 agreement.

5

6 **Q. What do you mean by “flexible” resources?**

7

8 **A.** A flexible resource is a resource that has the ability to be dispatched and will  
9 respond to such dispatches based on the resources registered ramp rate. Flexible  
10 resources are different from base load resources that are not responsive to dispatch  
11 instructions or variable energy resources whose production is based on the  
12 availability of a variable energy sources such as wind and solar. Flexible resources  
13 should also have low minimum operating levels that provide dispatch flexibility  
14 between minimum and maximum operating level for the resource.

15

16 **Q. Are there alternatives to flexible thermal resources that would also meet the  
17 ISO’s operational needs in the local capacity areas?**

18

19 **A.** There may be alternatives such as dispatchable demand response, but at this point,  
20 the ISO is not aware of a viable alternative to flexible conventional generation that  
21 has all the attributes of such resources, including voltage support, flexibility,  
22 sustained energy supply, reliable responsiveness, no significant use limitations, and  
23 the ability to provide energy regulation, operating reserves, and load following.

24

25 **Q. What is the ISO’s recommendation regarding the continuing renewable  
26 integration analysis of the need for new system resources?**

27

28 **A.** It is important that authorization for procurement of additional local area resources  
29 that can also provide flexibility be addressed in a continuation of the current LTPP  
30 proceeding, Docket R.10-05-006, with a decision released by December, 2012. This

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1 schedule was recommended by the parties to the settlement agreement and it is my  
2 understanding that the ISO will urge the Commission to promptly set a procedural  
3 schedule for evaluating local area capacity needs in comments to be filed in Docket  
4 R. 10-05-006.

5  
6 The ISO recommends that the CPUC's assessment of the need for new system  
7 resources to meet renewable integration needs be carried forward during the  
8 upcoming LTPP cycle that will end in December 2013. This will allow resolution  
9 of the local resources needed to be resolved in 2012 in Docket R.10-05-006 and will  
10 provide clarity for determining whether residual flexibility capability is necessary to  
11 meet system flexibility needs. Furthermore if there are identified flexibility needs,  
12 an assessment of best location for such resources can be performed.

13

14 **Q. What is the significance of your testimony in this proceeding?**

15

16 **A.** My testimony provides further to support for the ISO's conclusion that there is a  
17 need for resources in the San Diego area starting in 2018 and that the Commission  
18 should authorize SDG&E and the LSEs to procure sufficient flexible resources to  
19 meet this local need. If these resources are not procured and online in that  
20 timeframe, it is likely that the system will not be able to operate reliably unless the  
21 Encina units are allowed to stay online.

22

23 **Q. Are you familiar with the local capacity and OTC studies for the San Diego  
24 area discussed by Mr. Sparks in his testimony?**

25

26 **A.** Yes, I am although I did not work on these studies.

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1 **Q. Are the OTC studies that he discusses that same studies that have been or will**  
2 **be incorporated into the renewable integration studies that are currently in the**  
3 **process of being conducted by you and the working group?**

4

5 **A. Yes, they are.**

6

7 **Q. Does this conclude your testimony?**

8

9 **A. Yes, it does.**