Response to CEC's Weisenmiller Dec. 13, 2012 letter to CPUC re Pio Pico

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California Energy Commission (CEC) Chairman Robert Weisenmiller sent a letter to the CPUC commissioners on December 13, 2012 advocating that the proposed 300 MW Pio Pico Energy Center is critically needed and a power purchase agreement between SDG&E and the project developer should be granted. This letter should be accorded no weight by the CPUC.

First, the CEC did not make a case for Pio Pico in the record of the proceeding, which the CPUC surely would have welcomed, and as a result the letter's assertions are not supported by the record. Second, the CPUC cannot lawfully delegate its statutory responsibilities to another state agency or any other entity. Although the CEC has no statutory role to determine whether or not Pio Pico is needed, Chairman Weisenmiller has taken it upon himself to opine inappropriately on this matter at a critical moment in the CPUCôs deliberative process. There are numerous factual errors in Chairman Weisenmillerôs letter. These errors are addressed point-by-point below.

Weisenmiller Statement 1: *The current Proposed Decisions claim that the record for the proceeding is inadequate to support factual determinations regarding the pressing need for Pio Pico based on these two critical factors: integration of a burgeoning supply of intermittent renewable generation, and the system reliability crisis that has resulted from the potentially permanent outage of the San Onofre nuclear generating units. Yet each of our agencies is fully aware of their paramount importance, and are engaged in trying to avoid the reliability consequences they pose.*

Reply 1: The state is fully prepared now with ample existing gas-fired resources to meet the variable output of solar and wind resources projected for 2020. The state has historically high levels of generation reserves due to a decade of overbuilding gas-fired generators.

The state also has over 4,000 MW of new gas-fired resources under construction. The LA Basin will add nearly 2,000 MW of new fast response gas-fired generation in time to meet summer 2013 peak demand. This is about the capacity of the offline 2,200 MW San Onofre Nuclear Generating Station (SONGS). Increasing solar and wind output will simply reduce the run time of existing gas-fired generation sources that would otherwise provide the power. Demand for more backup power will not rise, though backup power is likely to be used in somewhat different patterns in 2020 than it is today.

Southern California experienced no grid reliability problems in the summer of 2012 without SONGS. There was more than adequate supply, and the local voltage support provided by SONGS was met by a series of commonsense steps: bringing 450 MW Huntington Beach Units 3 and 4 back online, debottlenecking SCEôs 220 kV Barre-Ellis transmission line, and increasing demand response capacity. The SONGS system reliability crisis that Mr. Weisenmiller alludes to has no basis in fact. The Southern California grid can clearly operate reliably without SONGS.

Weisenmiller Statement 2: *The Energy Commission's own official acts provide the necessary factual determination regarding the vital need for the Pio Pico facility to help integrate renewable generation.*

Reply 2: Mr. Weisenmiller had no direct role in the Pio Pico proceeding (other commissioners presided), and at no time in the proceeding did the CEC consider whether or not Pio Pico was needed to assure grid reliability. In fact, the CEC stated explicitly during the Pio Pico proceeding that it has no role in determining need.[1] The state has overbuilt its gas-fired generation capacity over the last decade. The stateôs planning reserve margin, meaning the quantity of spare resources available to meet peak demand, is 15%. Yet the actual reserve margin in Southern California is already 30% according to the California Independent System Operator (CAISO). The actual statewide planning reserve margin is even higher at 33%. These high reserve margins, far beyond what the state has deemed necessary to assure grid reliability, are due in large part to overbuilding natural gas-fired power plants. California has more than adequate reserves for the foreseeable future. The addition of nearly 2,000 MW of new gas-fired generation in Southern California by mid-summer 2013 will maintain this high margin of reserve power even if SONGS is permanently shut down.

CAISO, in the CECôs December 12, 2011 Carlsbad Energy Center hearing, stated that neither the proposed Pio Pico or Quail Brush peaker plants can substitute for generation at the Encina Power Plant (Carlsbad). If Pio Pico and Quail Brush are built, then either existing units at Encina would need to continue to operate or the proposed 550 MW Carlsbad Energy Center would need to be built (at Encina) to assure that power from Pio Pico and Quail Brush is deliverable to the grid. CAISOôs statements at the Carlsbad Energy Center hearing are provided in Attachment A.

In sum, CAISO is stating that Pio Pico and Quail Brush are in the wrong locations to address local power delivery challenges if Encina is shut down, because the voltage support provided by Encina at a critical point in the San Onofre-to-San Diego transmission pathway would still be missing. However, SDG&E assumes that Encina is completely retired as the primary basis for justifying power purchase agreements with Quail Brush and Pio Pico.

Weisenmiller Statement 3: *The Energy Commission went on to make specific Findings of Fact that Pio Pico provides essential flexible and supporting backup generation necessary for integrating intermittent renewable generation.*

Reply 3: Tens of thousands of solar arrays and wind turbines spread throughout California have a collective dampening effect on solar and wind output variations on a statewide level. The rate of load change in 2020 will not be significantly different than it is now, even on partly cloudy days or days with variable winds in different parts of the state. Sophisticated solar and wind

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[1] CEC, July 23, 2012 Pio Pico Energy Center hearing transcript, p. 142 (http://www.energy.ca.gov/sitingcases/piopico/documents/2012-07-23_transcript.pdf):
MR. BELL (CEC Staff Counsel): ñI would say that itôs not ï his (Powers) material talks about the need, the need for Pio Pico, and gives examples of why itôs not needed. As the community is well aware, the commission doesnôt do a needs-based analysis in our -- in our licensing process. We donôt determine the need. The market determines the need. Everything in Mr. Powersôs testimony can fairly be said to go towards the need of Pio Pico Energy Center, not -- not whether or not the alternatives truly have been fairly vetted.ò

forecasting, which is starting to be adopted by California utilities, also dramatically reduces the need for any fast start, fast ramp gas-fired resources.

Solar and wind output follow predictable patterns. As a result, solar and wind output can be predicted with a high degree of accuracy 15 minutes to an hour in advance. This is enough advance notice to allowing gas-fired generators that are already online to adjust output smoothly to track changes in solar and wind output. Germany has ten times the solar and wind resources in California, many 1,000s of MW more today than California will have in 2020. Germany relies on sophisticated solar and wind forecasting, not building and operating costly fast response gas-fired resources, to maintain grid reliability. California does a mediocre job of forecasting solar and wind compared to Germany. California needs to continue improving its solar and wind forecasting, a low cost and very effective solution, not building high cost gas-fired plants because it chooses to ñfly blind.ò

Weisenmiller Statement 4: *The need for new flexible generation to support integration of renewables is critical, but it is actually overshadowed by the reliability crisis posed by the indefinite shutdown of the San Onofre nuclear facilities.*

Reply 4: As noted, there was more than adequate power supply in the summer of 2012 without SONGS, and an adequate interim solution to the loss of voltage support from SONGS was developed. According to CAISO, a permanent solution to the SONGS voltage support issues is being implemented. The voltage support solution is summarized in the Dec. 3, 2012 Little Hoover Commission report on the stateôs RPS program (pp. 55-56):

> The California Independent Systems Operator already has begun developing a mitigation plan for the summer of 2013 with the assumption that none of the San Onofre units will be available. The preliminary plan includes two projects: using the two Huntington Beach plants for voltage support ï which will not produce emissions ï but not for power and installing shunt capacitors at three Southern California Edison substations.
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> In filing the request to the Federal Energy Regulatory Commission to move forward with this plan, AES, the owner of the Huntington Beach plants and the CAISO wrote:ñNeither project individually is capable of providing the amount of voltage support required in the absence of the SONGS unitsé No other reasonably feasible option was identified to avoid the unprecedented load shedding that is otherwise at risk here.ò

300 MW Pio Pico, approximately 70 miles from SONGS on the California border with Mexico, cannot substitute for the local voltage support that SONGS provides. That is why CAISO has devised voltage support solutions in the same geographic vicinity as SONGS to address the voltage support issue.

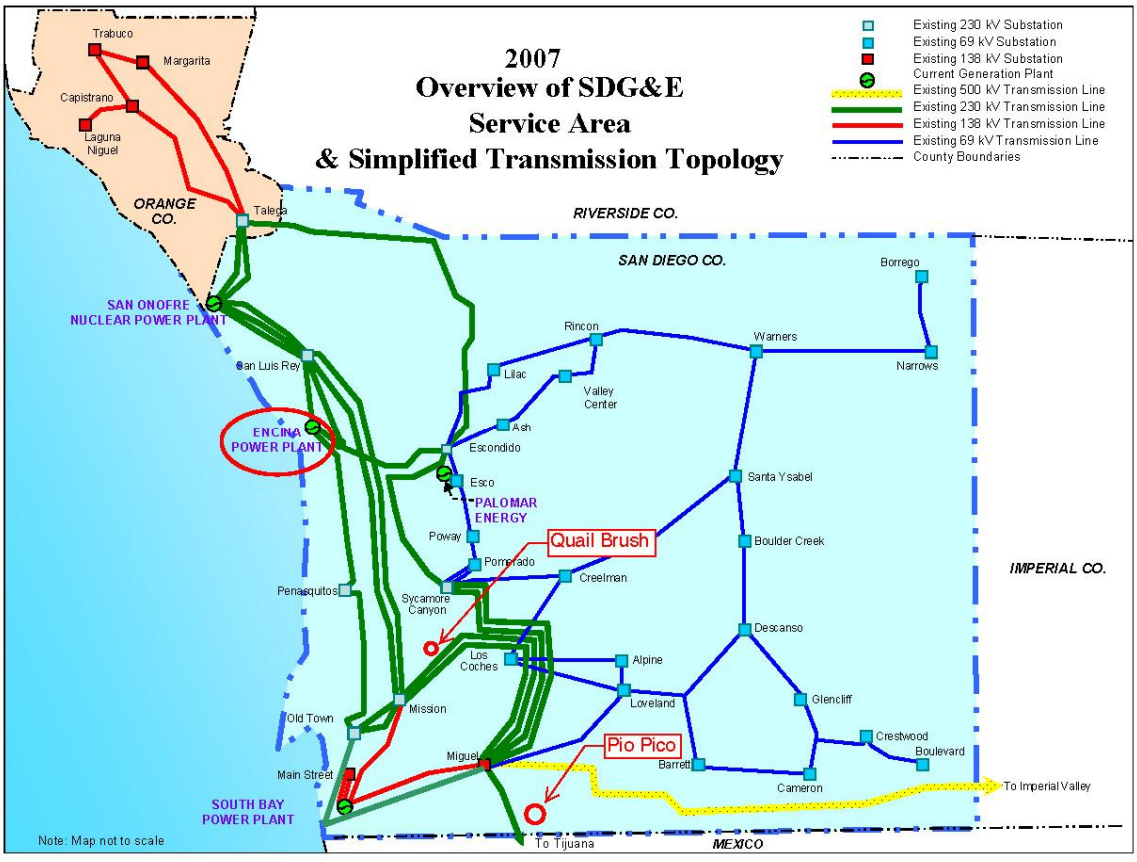
Conclusion

CEC Chairman Weisenmiller has chosen to interject himself in an area, the determination of need for the Pio Pico Energy Center, where the CEC itself asserts it has no authority. Chairman Weisenmiller relies on his own personal opinion, not the facts, to advocate that the CPUC grant a contract for the Pio Pico Energy Center. The CPUC should give no weight to Chairman Weisenmillerôs unsupported opinion on this issue.

Attachment A: Excerpts from December 12, 2011 CEC Carlsbad Energy Center Hearing Regarding Deliverability of Power from Pio Pico and Quail Brush

Summary: CAISO testimony states that neither Pio Pico nor Quail Brush can substitute for Encina (in Carlsbad) because neither Project is located at a critical point in the San Onofre-to-San Diego transmission pathway like the Encina plant. Therefore, even if there were a need for Quail or Pio Pico to replace output from Encina, their proposed locations would not allow the plants to do so. (CEC Evidentiary Hearing 07-AFC-6, December 12, 2011, pages 58-61)

Link: http://www.energy.ca.gov/sitingcases/carlsbad/documents/2011-12-12_Transcript.pdf



Attachment A: Excerpts from December 12, 2011 CEC Carlsbad Energy Center Hearing Regarding Deliverability of Power from Pio Pico and Quail Brush

Link: http://www.energy.ca.gov/sitingcases/carlsbad/documents/2011-12-12_Transcript.pdf

pp. 58-59, MR. SPARKS (CAISO): In the deliverability assessment, thatôs true, we did assume that the Encina Power Plant was completely retired without any replacement power to assess the deliverability of the renewable generation from Imperial County that is expected to be developed, as well as we looked at a sensitivity study with the -- the alternative generation which is expected to -- well, the Pio Pico and Quail Brush. So we -- that deliverability assessment did assume that Encina was completely gone, retired. And in that analysis we identified that essentially the generation, such as Pio Pico and the renewables, would not be deliverable, which basically means they cannot be counted for a local capacity requirement -- to meet local capacity requirements or system capacity requirements.

pp. 60-61, MR. THOMPSON (City of Carlsbad): What Iôm trying to figure out is if Encina Units 4 and 5 (600+ MW) are retrofitted to comply with OTC (once through cooling) rules and continue on in the foreseeable future like the applicant says it would, would it -- would -- would -- would putting in the megawatts represented by those two units change your analysis in either of these reports?

MR. SPARKS: So if we go back to the Exhibit 199, I believe, which is the once-through cooling analysis of the San Diego area, that analysis, essentially the point of it was to identify how much of the once-through cooling generation (at Encina), whether itôs repowered or continues to operate, is needed to meet the local capacity requirements. And so there -- there was not an assumption that it was not available. The -- the point of the analysis was to find out how much of it was needed.

MR. THOMPSON: So the -- if 231 megawatts are needed and 500-plus megawatts are provided by 4 and 5 would I correctly conclude then that there is no need for additional -- a third power plant at the -- thereôs no need for the CECP (550 MW Carlsbad Energy Center Project) because that capacity is being provided by Encina Units 4 and 5?

MR. SPARKS: If Encina Units 4 and 5 continue to operate through 2021, yes, they could meet the need.

Excerpts compiled by Bill Powers, P.E.

California ISO Peak Load History
1998 through 2011

Year	Megawatts at Peak Load*	Date	Time
1998	44,659	August 12	14:30
1999	45,884	July 12	16:52
2000	43,784	August 16	15:17
2001	41,419	August 7	16:17
2002	42,441	July 10	15:01
2003	42,689	July 17	15:22
2004	45,597	September 8	16:00
2005	45,431	July 20	15:22
2006	50,270	July 24	14:44
2007	48,615	August 31	15:27
2008	46,897	June 20	16:21
2009	46,042	September 3	16:17
2010	47,350	August 25	16:20
2011	45,545	September 7	16:30

* This value is an instantaneous MW value at the time specified in the Time column.

SDG&E peak demand has been static over last 7 summers at 4,500 MW +/- 150 MW, while population has grown ~7%

sources: Moodys.com Q2 2006 SD County = 2,941,000; U.S. Census 2011 SD County estimate: 3,140,000; CAISO OASIS