Rulemaking 12-03-014 (LTPP SONGS Track 4 )

Exhibit No. Track 4 CEERT-01

Witnesses James H. Caldwell, Jr.

Commissioner Michel P. Florio

ALJ David R. Gamson

# CENTER FOR ENERGY EFFICIENCY AND RENEWABLE TECHNOLOGIES

# SAN ONOFRE NUCLEAR GENERATION STATION (SONGS) TRACK 4 OPENING PREPARED TESTIMONY

Rulemaking 12-03-014
Long Term Procurement Plans (LTPP)
Track 4 (SONGS)

*September 30, 2013*

CENTER FOR ENERGY EFFICIENCY AND RENEWABLE TECHNOLOGIES
PREPARED TESTIMONY
RULEMAKING (R) 12-03-014:
LONG TERM PROCUREMENT PLANS (LTPP): SONGS TRACK 4

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# I.
# INTRODUCTION

The Center for Energy Efficiency and Renewable Technologies (CEERT) is a partnership of major environmental groups and private-sector clean energy companies. CEERT is a nonprofit public-benefit organization founded in 1990 and based in Sacramento, California, which advocates for policies that promote global warming solutions and increased reliance on clean, renewable energy sources for California and the West. CEERT has been an active party in Rulemaking (R.) 12-03-014 (Long Term Procurement Planning (LTTP)) and its testimony and exhibits in Track 1 (Local Reliability) were admitted into the record on August 16, 2012.[1]

On May 21, 2013, a Revised Scoping Ruling and Memo of the Assigned Commissioner and Administrative Law Judge ("Revised Scoping Memo") was issued in R.12-03-014 (LTPP) to add a "Track 4" to this proceeding to "consider the local reliability impacts of a potential long-term outage at the San Onofre Nuclear Power Station (SONGS) generators, which are currently not operational" and are now retired.[2] Pursuant to a later Assigned Commissioner and Administrative Law Judge's Ruling Regarding Track 2 and 4 Schedules issued on September 16, 2013 (September 16 AC/ALJ's Ruling), CEERT timely offers and serves its Track 4 Opening Testimony to address Southern California local reliability needs absent SONGS and how those needs, to the extent they exist, should be met.

[1] Reporter's Transcript (RT) at 1355-1356.
[2] Revised Scoping Memo, at p. 4; Track 4 Opening Testimony of Southern California Edison Company (SCE) (Track 4 Exhibit (Ex.) SCE-1), at p. 3.

## II.
## TRACK 4 LOCAL RELIABILITY NEED

**Q.1. Have you previously testified on the issue of Southern California local reliability needs in this proceeding (R.12-03-014)?**

**A.1.** Yes. I previously testified in Track 1 of this proceeding, which addressed SCE's local reliability needs and considered the expected retirement of Once-Through Cooling (OTC) generating facilities in Southern California, but not the retirement of SONGS. In Track 1, I sponsored three exhibits on behalf of CEERT, which were admitted into the record of R.12-03-014 (LTPP) as Exhibits (Exs.) CEERT-01, CEERT-02, and CEERT-03. In that testimony, I recommended that any identified need for local capacity (LCR) should be filled according to the adopted Commission policy of the "loading order," a policy followed in the Commission's Track 1 Decision (D.) 13-02-015.

Consistent with that policy, it was my testimony that any LCR need should first be mitigated through consideration of all available transmission enhancements and all available cost-effective energy efficiency, demand response, distributed renewable generation, and distributed combined heat and power. Only then, can a residual need be determined to exist, which should in turn be met first with dispatchable energy efficiency and demand response, storage, renewable resources, and, finally, only as a last resort, new natural gas facilities located within the LCR need area(s).

**Q.2. What is the purpose of your testimony today?**

**A.2.** On behalf of CEERT, I am offering the following recommendations for Track 4, which take into account applicable State policy and Commission precedent and the Track 4 Opening Testimony separately served by the California Independent System Operator (CAISO) (August 5, 2013), Southern California Edison Company (SCE) (August 26, 2013), and San Diego Gas and Electric Company (SDG&E) (August 26, 2013):

1) The additional issue in Track 4 of consideration of the permanent retirement of SONGS makes Track 4 an extension of Track 1. The needs are similar, the locational requirements overlap, the timing is similar. CEERT fully supports the policy direction taken by the Commission in Track 1 in Decision (D.) 13-02-015 and believes that policy should be extended into Track 4.

2) The cancellation of Track 2 makes it clear that there is no need other than additional LCR requirements related to the closure of SONGS that should be considered in Track 4 of this LTPP planning cycle. [3]

3) The long-term reliability of the bulk electric grid in Southern California is called into question by the combination of the OTC retirements and the closure of SONGS. At a minimum, the planning definition of "reliability" must be changed since the previous planning definition was the ability to withstand the loss of one unit at SONGS (when both were operating) plus the simultaneous loss of one major transmission element during a one year in ten peak load day without uncontrolled load shedding. In transmission planning speak, the N-1 has already occurred, so the previous N-2 is now the N-I and we must define a new N-2. This issue is the *sine qua non* for Track 4.

4) The success of the Track 1 procurement now underway plus any procurement arising from a future Track 4 decision to assure the robust reliability of the bulk transmission grid in Southern California will heavily depend on modifications and enhancements to current Commission programs plus third party actions[4] for at least Energy Efficiency, Demand Response and Retail Rate Design. The issue is not technical feasibility. It is also not whether the potential exists in the right locations or whether this path is cost-effective as compared to construction of new conventional resources. Instead, it is about ensuring timely execution and coordination among several Commission proceedings to affect these changes. While the bulk of this effort is beyond the scope of this LTPP Track 4, firm milestones and specific

[3] September 16 AC/ALJ's Ruling, at pp. 6-7.
[4] E.g., CAISO tariff changes.

expectations must be set in this proceeding to ensure this essential policy result actually occurs.

5) The testimony of at least the CAISO and SCE make it clear that there are viable transmission enhancements to improve both real and reactive powers flows on the Southern California grid that simply must be factored into any generation procurement decision in Track 4. None of these studies are currently on the record in this proceeding and, in fact, have not even been completed. It is simply not possible to make a reasoned decision about residual conventional generation procurement without knowledge of the results and integration of this work into the record.

6) Currently pending before the Commission is a Proposed Decision for the adoption of an Energy Storage Procurement Framework in R.10-12-007 (Energy Storage). This Proposed Decision, if issued by the Commission, would establish firm procurement targets in the relevant timeline and location for Track 4 of 580 MW for SCE and 165 MW for SDG&E. All of this new capacity will qualify to fill any LCR need and must be factored into any Track 4 procurement authorization. Even with the Framework targets, the Proposed Decision does not even account for all of the storage that may be available to meet LCR need since it excludes large-scale (50MW or more) pumped storage in those procurement targets. Yet, there are multiple pumped storage facilities under consideration in Northern San Diego County that could easily provide for LCR need found in Track 4, plus provide other significant grid benefits. These facilities, *along with* the storage targeted by the Proposed Decision, simply must be considered as part of the portfolio available for procurement in Track 4.

7) There currently exists a large surplus of natural gas generation capacity in California that is projected to continue throughout this LTPP planning cycle regardless of the retirement of the OTC plants. Reserve margins are more than adequate through 2022, and current and projected capacity factors of the then existing fleet of both combined cycle plants and simple cycle peaking

plants are *very* low. Any decision to procure new gas generation capacity in Track 4 must consider the economic impact of this new incremental generation on the existing fleet. If procurement forces the economic retirement of even more of the existing fleet[5] then the procurement of new gas capacity may not result in any net LCR benefit.

**Q.3. Are there any other issues you wish to address in your Track 4 Opening Testimony?**

**A.3.** Yes. I would like to elaborate on the nature of the need under consideration in Track 4. Given the procedural history of these issues up to this point and all of the recent discussion surrounding the issues of "flexibility," renewable resource integration, and the apparent success of energy efficiency, distributed generation and demand response in other locations and for other purposes, it is important to understand the precise nature of this LCR need. In a sentence, the need is for essentially *pure* capacity located within the cut-plane of the transmission constraints along coastal Southern California, including all of SDG&E's service territory.

Cancellation of Track 2 for this LTPP cycle is an admission that there is no demonstrated need for additional general system capacity. Statewide reserve margins remain much higher than required for reliability through at least 2022. There is also no demonstrated need for new resources to provide increased "flexibility" on the grid.[6] Thus, any need found in Track 4 essentially equates to CAISO Operating Reserves located within the Southern California load pocket(s).

Resources procured to satisfy the Track 4 LCR need will, by definition, be called upon to actually supply that capacity and provide energy to meet load on extremely rare occasions – on the order of a few hours per year at most. Any operations by new conventional generation that may be procured in Track 4

[5] The non-OTC existing plants within the Los Angeles Basin portion of the SCE service territory and within San Diego service territory are among the most vulnerable plants facing economic retirement.
[6] However, that does not mean that certain measures are not required to ensure that sufficient flexibility is available to the CAISO in real time. That is the subject of other proceedings at this Commission and tariff modifications at the CAISO.

above that rare, but essential, LCR requirement will only displace other existing gas resources that now supply that energy, flexibility, and generic system capacity.

Given the forecasted success of the 33% RPS program and continued advances in California's world class Energy Efficiency programs, there is no shortage of energy to meet load. In fact, all of the modeling done in the previous year by the CAISO, SCE, the consulting group E-3, and others, shows that, whether the model is deterministic or stochastic, whether SONGS is operable or not, whether the OTC plants are retired or not, whether load growth is assumed to be high or low, the capacity factor of the combined cycle gas fleet *never* approaches levels that would justify building new baseload gas during the ten year planning horizon. All of the "base case" scenarios in all of the Commission proceedings show annual average capacity factors for the then-operable combined cycle gas fleet of under 40%, with the capacity factor of older simple cycle peaking plants in the low single digits at most.

Market prices for "capacity" confirm this analysis. Spot prices for operating reserves in the CAISO ancillary service markets and year-ahead generic RA prices in bilateral procurements by load serving entities (LSEs)[7] have been bumping along the bottom at 1-3 $/kw-yr for several years and show no signs of increasing dramatically at any time during the ten-year LTPP planning window. The capacity price required for revenue adequacy of new gas fired generation is above $150/kw-yr. The capacity price required to provide revenue adequacy for the continued operation of an average existing gas facility is near the CAISO default CPM of $67.50/kw-yr.[8] The economic discussion has been less about how to lower wholesale prices for consumers than about how to funnel enough money to the existing gas fleet to keep it in operation going forward.

[7] Although these prices are inexplicitly confidential, the California Energy Commission (CEC) publishes an annual assessment of Resource Adequacy (RA) prices based on voluntary price disclosure by the Investor Owned Utilities. The most recent CAISO market price assessment can be found at CAISO Market Performance Report August 2013, September 27, 2013.

[8] The Capacity Procurement Mechanism (CPM) is the Federal Energy Regulatory Commission (FERC) tariff price at which the CAISO can buy capacity, if necessary.

Unless the Commission wishes to pay massive out-of-market subsidies to existing generators, it must be willing to accept economic retirement of a portion of the existing non-OTC gas fleet. Before adding to this problem by procuring yet more new gas capacity to fill a perceived LCR need in Track 4, the economic health of the existing gas fleet and the possibility of cost-effective retrofits to increase its value on the twenty first century California grid must be considered. Although specifics of this analysis are well beyond the scope of Track 4, this issue simply cannot be ignored.

**Q.4. Do you have a recommendation for how and when the Commission should reach a decision in Track 4?**

**A.4.** Yes. On September 10, 2013, CEERT filed Comments on the Track 4 Schedule in this proceeding pursuant to an ALJ's Ruling of September 4, 2013. By those Comments, CEERT recommended a path forward in this Track 4 to arrive at a reasoned procurement authorization that both assures the long term reliability of the Southern California grid based on a complete public record and conforms to adopted Commission policy regarding the Loading Order, all in a timely and efficient manner.[9] Notably, the schedule proposed by CEERT in those Comments included full and appropriate consideration of the CAISO's Transmission Planning Process (TPP) study, which is expected in January 2014, *before* a Commission decision is made authorizing any LCR procurement beyond that authorized in D.13-02-015. CEERT's proposed schedule further permits a Proposed Decision on final procurement authorization to be issued by June 2014, following opportunities for public input. This schedule will result in a holistic decision that will fully account for all factors affecting this need, preserve Commission policies, and avoid the piecemeal or premature overreliance on fossil procurement. CEERT incorporates those Comments here by reference and looks forward to continued participation in the Track 4 proceeding.

[9] R12-03-014 (LTPP) CEERT Comments on Track 4 Schedule (9/10/13), at pp. 5-6.

**Q.5. Does this conclude your testimony?**

**A.5.** Yes.

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# APPENDIX A

# STATEMENT OF QUALIFICATIONS

CENTER FOR ENERGY EFFICIENCY AND RENEWABLE TECHNOLOGIES

# STATEMENT OF QUALIFICATIONS OF JAMES H. CALDWELL, JR.

Q1 *Please state your name and business address.*

A1 My name is James H. Caldwell, Jr., and my business address is 1650 E Napa Street, Sonoma CA 95476. The offices of the Center for Energy Efficiency and Renewable Technologies (CEERT) are located at 1100 11th Street, Suite 311, Sacramento, CA 95814.

Q2 *Briefly describe your present employment.*

A2 I am an independent consultant who specializes in renewable resources and transmission policy. My current clients include CEERT and several renewable developers interested in the California market.

Q3 *Please summarize your professional background.*

A3 My academic and professional background includes over fifty years of experience in the energy industry. For the past thirty years, I have specialized in renewable technology and project development including photovoltaic solar, concentrating solar thermal power, wind, biomass, and geothermal. I have been employed in technical and executive positions in the oil industry (Atlantic Richfield), the CA utility industry (Los Angeles Department of Water and Power), the US Department of Energy, renewable trade associations, and several large and small renewable resource developers. I have a BS degree in Chemical Engineering from Stanford University and an MBA from California State University at Long Beach.

Q4 *Have you previously testified on behalf of CEERT before the California Public Utilities Commission in this proceeding (R.12-03-014)?*

A4 Yes. Most recently, I testified on behalf of CEERT in Track 1 (Local Reliability) of R.12-03-014, submitting Opening, Reply, and Supplemental Testimony, which

was admitted into evidence in this proceeding as Exhibits (Exs.) CEERT-01, CEERT-02, and CEERT-03.

Q5 *What is the purpose of your testimony?*

A5 The purpose of my testimony is to sponsor the *San Onofre Nuclear Generating Station Track 4 Opening Prepared Testimony of James H. Caldwell, Jr.,* on behalf of CEERT (Track 4 Exhibit CEERT-01) in R.12-03-014 (LTPP) Track 4 (SONGS).

Q6 *Does this conclude your statement of qualifications?*

A6 Yes, it does.