

Docket:	:	<u>R.12-03-014</u>
Exhibit Number	:	_____
Commissioner	:	<u>Michel Florio</u>
Admin. Law Judge	:	<u>David Gamson</u>
ORA Project Mgr.	:	_____
	:	_____
ORA Witnesses	:	<u>Robert M. Fagan</u>



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

**REBUTTAL TESTIMONY
OF
ROBERT M. FAGAN**

**Order Instituting Rulemaking to Integrate and
Refine Procurement Policies and
Consider Long-Term Procurement Plans
Track 4 – SONGS Outage
(R.12-03-014)**

San Francisco, California
October 14, 2013

TABLE OF CONTENTS

Q1. What is the purpose and scope of your testimony? 1

SPS Issues 1

Q2. Please identify the portion of testimony addressing SPS issues that you examine. 1

Q3. Do Mr. Monsen (IEP) or Ms. Ballouz (AES Southland) provide any particular evidence in support of their opinions favoring CAISO’s recommendation to not consider use of a load-shedding SPS when assessing N-1-1 mitigation options for the SONGS area? 2

Q4. Do the NERC standards permit SPS for long-term solutions for an N-1-1 event? 2

Q5. Is it possible that a load-shedding SPS that lowers SONGS local area resource need and reduces the level of any Commission procurement authorization in this Track 4 would only be required to be in place for a short-term time period? 2

Q6. Does a “need to use an SPS in 2022 or 2020” actually imply that load-shed would occur in those years? 3

Q7. Is SPS load shed a reasonable planning tool for N-1-1 events, and it should be assumed to be available when assessing long-term procurement needs at this time? 3

Reactive Power and Proposed / Conceptual Transmission Issues..... 3

Q8. Please identify the section of testimony that you reviewed that addresses reactive power, and proposed and conceptual transmission investments. 3

Q9. Does PG&E acknowledge the potential for transmission solutions to lower local reliability needs? 4

Q10. Does PG&E examine the specific reactive power issues acknowledged by the CAISO in its August 5, 2013 opening testimony, or mentioned in the August 30, 2013 Preliminary Reliability Plan for LA Basin and San Diego as critical “near term needs”? .. 4

Q11. Does Mr. Monsen give any weight to the ability of near-term reactive and transmission solutions such as the Mesa Loop-in to reduce SONGS area need? 5

Q12. Does Ms. Ballouz acknowledge that the Mesa Loop-in project will reduce need for generation requirements in the LA Basin area? 5

Q13. Do you agree with Ms. Ballouz that “new greenfield generation” is needed?..... 6

Q14. Ms. Ballouz also is concerned about voltage support if Mesa Loop-in is built and less generation is procured in the LA Basin. Please comment..... 6

Timing 7

Q15. Does PG&E state why they think a need determination and authorization should be made now, rather than after the 2014/2014 TPP study results are available? 7

Q16. Do you agree that critical timing issues merit an immediate procurement authorization? 7

Q17. Does this conclude your testimony?..... 7

1 **Q1. What is the purpose and scope of your testimony?**

2 **A1.** My testimony is in rebuttal to certain aspects of the reply testimonies filed on September
3 30, 2013 by Pacific Gas and Electric Company (PG&E), The Utility Reform Network
4 (TURN), Sierra Club California, AES Southland, and the Independent Energy Producers
5 (IEP). It addresses Special Protection Systems (SPS), reactive power support, and
6 proposed and conceptual transmission projects as they would affect the need for local
7 reliability resources in the San Onofre Nuclear Generating Station (SONGS) local
8 reliability area. It also briefly addresses some resource deployment timing issues raised
9 in PG&E’s testimony.

10 **SPS Issues**

11 **Q2. Please identify the portion of testimony addressing SPS issues that you examine.**

12 **A2.** Mr. Woodruff’s testimony on behalf of TURN supports inclusion of load-shedding SPS
13 as a mitigation tool for the critical N-1-1 contingency driving resource need in the
14 SONGS study area.¹ Mr. Powers’ testimony on behalf of Sierra Club California indicates
15 support of the use of load-shedding for the N-1-1 event, though he characterizes this
16 event as a Category D event² (the California Independent System Operator Corporation
17 (CAISO), Southern California Edison Company (SCE) and San Diego Gas & Electric
18 Company (SDG&E) characterize it as a Category C event).³ Mr. Monsen’s testimony on
19 behalf of IEP states that “it is unreasonable for SCE to count on using load shedding in
20 the SDG&E area” and he supports higher levels of incremental procurement than SCE
21 indicates.⁴ Ms. Ballouz’s testimony on behalf of AES Southland expresses her opinion

¹ Prepared Testimony of Kevin Woodruff on Behalf of The Utility Reform Network Regarding Track 4 – SONGS Retirement, September 30, 2013 (TURN Reply Testimony) (“Commission should authorize resource needs assuming load shedding may be used to mitigate the “N-1-1” contingency that is driving estimates of LA Basin and San Diego Local Need”, 12: 20 -22.).

² Prepared Opening Testimony of Bill Powers on behalf of Sierra Club California, September 30, 2013 (Sierra Club California Reply Testimony) at 3.

³ See for example Attachment A-1, Table 1, North American Electric Reliability Corporation Standard TPL-003-0b to TURN’s Reply Testimony, “System Disturbance Following Loss of Two or More BES Elements” for a listing of Category C and Category D events applicable to this standard. A Category D event is more severe than a Category C event, but ORA agrees with Sierra Club California that the SPS should be considered in planning for a future without SONGS.

⁴ Testimony of William A. Monsen on behalf of the Independent Energy Producers Association Concerning Track 4 of the Long-Term Procurement Plan Proceeding, September 30, 2013 (IEP Reply Testimony) at p. 47: 17 – 48: 6.

1 that it is not prudent to use load shedding for long term planning of a reliable system,
2 though it could be used for short term solutions.⁵

3 **Q3. Do Mr. Monsen (IEP) or Ms. Ballouz (AES Southland) provide any particular**
4 **evidence in support of their opinions favoring CAISO's recommendation to not**
5 **consider use of a load-shedding SPS when assessing N-1-1 mitigation options for the**
6 **SONGS area?**

7 **A3.** No. Mr. Monsen notes that load shedding is not acceptable to CAISO and thus it is
8 unreasonable for SCE to count on it;⁶ and Ms. Ballouz states her opinion that it wouldn't
9 be prudent to use an SPS for the N-1-1 event as a long-term solution.⁷ She does indicate
10 it could be used for a short-term solution, or if no other alternatives are feasible.⁸

11 **Q4. Do the NERC standards permit SPS for long-term solutions for an N-1-1 event?**

12 **A4.** Yes they do. As noted in my Reply Testimony,⁹ and as also noted in Mr. Woodruff's
13 Attachment A-1, NERC's allowance of a controlled load-shed SPS as part of the
14 mitigation for an N-1-1 contingency event can be for the long term.

15 **Q5. Is it possible that a load-shedding SPS that lowers SONGS local area resource need**
16 **and reduces the level of any Commission procurement authorization in this Track 4**
17 **would only be required to be in place for a short-term time period?**

18 **A5.** Yes. While the NERC standard permits controlled load shed for the long-term for an
19 N-1-1 event, as I noted in my Reply Testimony it may very well be that any need to
20 actually use an SPS in 2022, or 2020, would be limited in time until additional preferred
21 resources were deployed, or until transmission upgrades were completed.¹⁰

⁵ Track 4 Prepared Testimony of Hala N. Ballouz on behalf of AES Southland, September 30, 2013 (AES Southland Reply Testimony/Ballouz) at. 10.

⁶ IEP Reply Testimony at 46:1-6.

⁷ AES Southland Reply Testimony/Ballouz at 9-10.

⁸ AES Southland Reply Testimony/Ballouz at 10.

⁹ Reply Testimony Of Robert M. Fagan on Behalf Of DRA, Track 4 SONGS Outage, September 30, 2013 (Fagan Reply Testimony) at 6: 7-12

¹⁰ Fagan Reply Testimony at 11: 15-27.

1 **Q6. Does a “need to use an SPS in 2022 or 2020” actually imply that load-shed would**
2 **occur in those years?**

3 **A6.** No, certainly not. As with any use of an SPS, only under particular system conditions
4 would the SPS even be set, or armed, to operate; and then only if an N-1-1 event then
5 occurred, under those conditions, might the SPS operate and shed load. Long-term
6 planning to include a SPS load-shedding scheme does not mean that load-shedding will
7 occur. In fact, the probability that a SPS would be used would remain low, since
8 i) system conditions would need to be relatively severe – e.g., very high load – for
9 the SPS to be activated (under this planning framework),¹¹ and ii) the relatively
10 low-probability sequential loss of two lines would need to happen, before any load would
11 ever be shed.

12 **Q7. Is SPS load shed a reasonable planning tool for N-1-1 events, and it should be**
13 **assumed to be available when assessing long-term procurement needs at this time?**

14 **A7.** Yes. Given that many preferred resource and transmission options are available at this
15 time, the ability to use an SPS, as a cost-avoidance and reasonable “backstop”
16 mechanism to avoid over-procurement of gas-fired generation, is sensible.

17 **Reactive Power and Proposed / Conceptual Transmission Issues**

18 **Q8. Please identify the section of testimony that you reviewed that addresses reactive**
19 **power, and proposed and conceptual transmission investments.**

20 **A8.** PG&E recommends that the Commission “should not reduce this need determination
21 [5,070 MW, based on a PG&E summation of SCE and SDG&E scenario values] based on
22 conceptual or proposed transmission projects, the possible outcomes of SCE’s Living
23 Pilot” program or other pilot programs, or procurement authorizations made in prior
24 proceedings.”¹² PG&E further states that “The Commission has sufficient information at
25 this time to make a need determination and procurement authorization in Track 4 of this
26 proceeding.”¹³ Mr. Mosen of IEP addresses “uncommitted” transmission projects when

¹¹ Other contingency situations separate from the N-1-1 that drives system need in this Track 4 could result in operation of a load-shedding SPS, either the “safety net” load-shedding SPS that is in place in the SDG&E territory, or other SPSs that allow for controlled load shedding in other parts of California.

¹² PG&E 2012 Long-Term Procurement Plan Track 4 – Local Reliability Needs Without SONGS, Prepared Testimony, September 30, 2013 (PG&E Reply Testimony) 1-2 and 1-3.

¹³ PG&E Reply Testimony at 2-7.

1 recommending procurement authorization that would exclude the effect of new
2 transmission,¹⁴ and he does not appear to address - at all - the impact that dynamic and
3 static reactive support devices would have on the SONGS area need.

4 **Q9. Does PG&E acknowledge the potential for transmission solutions to lower local**
5 **reliability needs?**

6 **A9.** Yes. However, PG&E nevertheless recommends that the Commission not wait until after
7 the 2013/2014 TPP studies are complete,¹⁵ and does not address CAISO's testimony in
8 this regard. CAISO recommends waiting; PG&E recommends the Commission go ahead
9 with need determination and procurement authorization now.

10 **Q10. Does PG&E examine the specific reactive power issues acknowledged by the CAISO**
11 **in its August 5, 2013 opening testimony, or mentioned in the August 30, 2013**
12 **Preliminary Reliability Plan for LA Basin and San Diego¹⁶ as critical “near term**
13 **needs”?**

14 **A10.** No. While PG&E claims that “an insufficient amount of generation could have
15 cascading impacts on the statewide electric grid”¹⁷ it fails to present compelling
16 arguments or evidence for why this Commission should not wait until the results of the
17 2013/2014 TPP are complete before considering a need determination. In particular,
18 PG&E does not address CAISO's specific near-term reactive power support suggestions
19 for helping to mitigate the loss of SONGS, and does not acknowledge that with certain
20 reactive support installations, on the order of hundreds of MW of need can be reduced in
21 the SONGS local reliability area.¹⁸ CAISO's Track 4 studies specifically did not fully
22 include such increased transmission and reactive support investments, though it is my
23 understanding that they will be studied during the 2013/14 TPP. It is important that such
24 study be fairly extensive, given the critical importance these resources can have in

¹⁴ IEP Reply Testimony at 5: 8-10, 6: 14, 17: 21 – 18: 19.

¹⁵ PG&E Reply Testimony, 2-6 – 2-7.

¹⁶ Appended as Attachment A to Reply Testimony of Nika Rogers, September 30, 2013.

¹⁷ PG&E Reply Testimony, 1-1:13-14.

¹⁸ See for example Fagan Reply Testimony, Attachment K, Excerpts from California ISO Briefing on Nuclear Generation Studies, Preliminary Results, December 13-14, 2012, slide 10, “Approximately 700 MW of generation in San Diego can be displaced by additional reactive support, transformer upgrades and 66 kV transmission upgrades in the LA Basin and upgrading line series capacitors and additional transformer upgrades.”

1 bolstering SONGS-area local reliability. PG&E appears to discount the fundamental
2 effect that reactive and transmission support solutions can have on resource need in the
3 area. As noted in my Reply Testimony, many of the reactive and transmission solutions
4 that would lower SONGS area local resource need can be in place by or before 2017 or
5 2020, the years that PG&E cites as critical for fast-tracking the procurement of supply
6 resources now.

7 **Q11. Does Mr. Monsen give any weight to the ability of near-term reactive and**
8 **transmission solutions such as the Mesa Loop-in to reduce SONGS area need?**

9 **A11.** No. Mr. Monsen recommends a “no regrets” policy for Track 4 procurement, but does
10 not acknowledge that critical reactive support and transmission solutions would lower the
11 level of procurement he otherwise recommends (i.e., 2,506 MW for SCE, and 820 MW
12 for SDG&E).¹⁹ He cites the risks of considering building a new Imperial Valley (IV) to
13 SONGS Mesa line,²⁰ but he does not address the timing or risk attributes of three critical
14 sets of transmission resources that do not exhibit the type of barriers associated with a
15 project such as IV to SONGS Mesa: the Mesa loop-in alternative, terminal equipment
16 upgrades at SCE 230 kV stations, and the proposed dynamic reactive support options for
17 the regions.²¹ Mesa loop-in and reactive support installations have a material effect on
18 the need in the SONGS study area, but Mr. Monsen does not specifically address even
19 their existence, not to mention their importance.

20 **Q12. Does Ms. Ballouz acknowledge that the Mesa Loop-in project will reduce need for**
21 **generation requirements in the LA Basin area?**

22 **A12.** Yes. She specifically notes that it will reduce generation in the LA Basin area.²² Track 4
23 concerns generation or other resource need in the SONGS local reliability area, which
24 includes the LA Basin. The Track 2 proceeding in this docket was addressing system
25 need issues, and it has been cancelled. Whether or not Mesa Loop-in would “reduce the
26 overall need for new generation” is not at issue in this Track 4. Nonetheless, Ms. Ballouz

¹⁹ IEP Reply Testimony at , 7-8.

²⁰ IEP Reply Testimony at 8.

²¹ See Table III-3, SCE Testimony, items 7 through 10, reactive and transmission resources not included in CAISO’s Track 4 studies and not addressed in Mr. Monsen’s testimony.

²² AES Southland Reply Testimony (Ballouz) at 4.

1 testifies that “generation outside the LA Basin LCA would still need to be permitted,
2 contracted for, and constructed to meet overall system need,” and that “new greenfield
3 generation outside the LA Basin should also be considered.”²³

4 **Q13. Do you agree with Ms. Ballouz that “new greenfield generation” is needed?**

5 **A13.** No, to the extent that her characterization of “new greenfield generation outside the LA
6 Basin” is referencing conventional gas-fired generation. One of the reasons Track 2 was
7 cancelled was because preliminary indications from the base case modeling of system
8 needs showed scant evidence of system need (when preferred resources as anticipated for
9 the base case are included in the modeling).²⁴ The presence of the Mesa Loop-in project
10 would allow preferred resources from outside the LA Basin to flow into the basin, which
11 reduces or obviates the need for any additional (beyond Track 1) “Brownfield Western
12 LA Basin generation”²⁵ to be built within the basin.

13 **Q14. Ms. Ballouz also is concerned about voltage support if Mesa Loop-in is built and less
14 generation is procured in the LA Basin. Please comment.**

15 **A14.** Ms. Ballouz notes that the Huntington Beach synchronous condensers provide needed
16 voltage support.²⁶ She does not state the important corollary to that point: that other
17 synchronous condensing resources, and other dynamic voltage support devices such as
18 static VAR compensators (SVC) can help to make up for the loss of reactive support that
19 was provided by SONGS. Those resource additions should be modeled by CAISO in the
20 2013/14 TPP studies. While it is likely true that the AES Southland projects can provide
21 valuable voltage support in the area, as she notes,²⁷ that does not mean that such projects
22 are the only, or the more cost-effective, means of providing the voltage support lost in the
23 absence of SONGS. To the extent that the need in the SONGS area is tied to voltage
24 concerns – as it explicitly is in this Track 4 – it is crucial to recognize the role that
25 reactive support devices can play in cost-effectively reducing local area real power

²³ AES Southland Reply Testimony (Ballouz) at 6.

²⁴ See for example CAISO presentation of August 26, 2013 showing a “shortage” violation for the base case of just 2 hours (out of 8,760) in 2022, for the extended DR Available circumstance, slide 30.

²⁵ AES Southland Reply Testimony (Ballouz) at 7.

²⁶ AES Southland Reply Testimony (Ballouz) at 9.

²⁷ AES Southland Reply Testimony/Ballouz at 9.

1 resource needs. In general, reactive support devices such as synchronous condensers and
2 SVCs are less expensive means of providing reactive support (VARs or MVARs) than
3 generation that is designed to also provide real power (MW).

4 **Timing**

5 **Q15. Does PG&E state why they think a need determination and authorization should be**
6 **made now, rather than after the 2014/2014 TPP study results are available?**

7 **A15.** Yes. PG&E states that “[g]iven the upcoming OTC retirements in southern California in
8 2017 and 2020, timing is critical to ensure that there will be sufficient time for SCE and
9 SDG&E to develop a procurement plan and initiate their procurement processes as
10 quickly as possible.”

11 **Q16. Do you agree that critical timing issues merit an immediate procurement**
12 **authorization?**

13 **A16.** No. In particular, the resources that will lower SONGS study area need – reactive and
14 transmission projects – are slated for deployment by or before 2020. It is critical that
15 their effect be considered, through examination of the 2013/2014 TPP results, prior to
16 any procurement authorization, especially if that authorization is not subject to downward
17 revision. And, preferred resources, the state’s policy choice, have much shorter lead
18 times than conventional gas-fired generation resources. PG&E’s recommendation to rush
19 to procurement because of timing considerations is ill-advised; indeed, prospects for
20 preferred resources and transmission/reactive solutions (as noted in the Preliminary
21 Reliability Plan for LA Basin and San Diego) are such that the Commission should
22 indeed *not* rush to judgment on authorizing procurement of long-lead time, last-in-the-
23 loading order gas-fired generation resources.

24 **Q17. Does this conclude your testimony?**

25 **A17.** Yes.