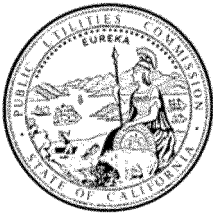


Docket:	:	<u>R.12-03-014</u>
Exhibit Number	:	_____
Commissioner	:	<u>Michel Florio</u>
Admin. Law Judge	:	<u>David Gamson</u>
DRA Project Mgr.	:	_____
	:	_____
DRA Witnesses	:	<u>Radu Ciupagea</u>



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

**REPLY TESTIMONY  
OF  
RADU CIUPAGEA**

**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  
September 30, 2013

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**QUALIFICATION OF WITNESS - RADU CIUPAGEA**

**ATTACHMENT A & B**

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

2 **A1.** I reply to the prepared testimonies of California Independent System Operator  
3 Corporation, (CAISO), Southern California Edison Company (SCE), San Diego Gas &  
4 Electric Company (SDG&E), on the subjects of energy efficiency (EE), demand response  
5 (DR) modeling assumptions, the role of energy storage in meeting local capacity  
6 requirements in the San Onofre Nuclear Generating Station (SONGS) study area,<sup>1</sup> SCE  
7 and SDG&E's requests for new local capacity requirements (LCR) generation resources  
8 and CAISO's recommendation that the Commission wait for additional studies before  
9 making a decision on LCR need.

10 In this context, I explain that the incremental EE and DR input assumptions adopted in  
11 the CPUC's Revised Scoping Ruling (Scoping Memo) and modeled in the CAISO power  
12 flow studies are very conservative and allow for the Commission to pursue a more  
13 aggressive procurement authorization of LCR quality preferred resources, to the extent  
14 there is a LCR need determination for the SONGS study area. In addition, I discuss the  
15 need for coordination between the Long Term Procurement Plan (LTPP) proceeding and  
16 the Energy Storage Proposed Decision in R.10-12-007<sup>2</sup> and recommend that the  
17 Commission reject SCE and SDG&E's requests for new LCR generation resources  
18 because power flow study results do not support a LCR need determination for the  
19 SONGS study area.

20 **Q2. Are conservative energy efficiency input assumptions reasonable for the purposes of**  
21 **Track 4 studies?**

22 **A2.** The Energy Efficiency assumptions are conservative but somewhat reasonable for the  
23 Los Angeles (LA) Basin, but not for the San Diego sub-area. The Scoping memo states  
24 that the mid level of incremental energy efficiency is expected to occur in both utilities'  
25 territories, but adopts a low level of savings for use in the Track 4 studies to account for  
26 uncertainty about where the savings will occur.<sup>3</sup> The incremental energy efficiency

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<sup>1</sup> SONGS study area is defined as LA Basin plus SDG&E service area.

<sup>2</sup> Proposed Decision Adopting Energy Storage Procurement Framework and Design Program, issued September 3, 2013 in R.10-12-007, available at <http://docs.cpuc.ca.gov/SearchRes.aspx?DocFormat=ALL&DocID=76387254>.

<sup>3</sup> Revised Scoping Ruling, Attachment A, p. 4.

1 assumptions for SCE are based on its entire service territory. The LA basin comprises  
2 only part of SCE’s service territory, so given the uncertainty about where energy  
3 efficiency measures will be implemented, it is appropriate to use the low estimate for the  
4 LA Basin in Track 4 powerflow studies. Without further investigation or creation of a  
5 new methodology to track where energy efficiency programs are effective by local  
6 capacity region, using a discounted value for energy efficiency is reasonable. However,  
7 using the low estimate for San Diego is inappropriate since the scoping memo also  
8 acknowledges that San Diego’s service territory is identical to the San Diego Sub-Area.  
9 There is therefore no need to account for uncertainty regarding whether the savings will  
10 occur in the San Diego sub-area, since the sub-area and the service territory are identical.  
11 Unless there is an inconsistency between how the California Energy Commission (CEC)  
12 allocated incremental energy efficiency and how the CAISO studied San Diego’s service  
13 territory, it is reasonable to use the mid-level of incremental energy efficiency.

14 **Q3. Are conservative demand response input assumptions reasonable for the purposes**  
15 **of Track 4 studies?**

16 **A3.** Yes. DRA does not contest the reasonableness of using conservative assumptions for  
17 incremental DR. The Scoping Memo correctly determines that:

18 “Currently funded fast response (30 minute or less) demand Response (DR)  
19 programs fit the “First Contingency” category because they can address a post  
20 first-contingency condition and would be triggered once the first major item trips  
21 offline. Price responsive and day-ahead DR programs or DR programs outside of  
22 the areas of most concern fit the “Second Contingency” category. We expect that  
23 those programs could become more capable of meeting needs by 2022, but  
24 without action to make that a reality, we cannot assume that they can meet the  
25 identified problem. The study results shall provide a broad assessment of local  
26 area needs that inform the programs of “Second Contingency” resources such that  
27 they can adapt to meet the residual need.”<sup>4</sup>

28 In 2022, LA Basin first contingency DR is projected to be 173 MW, while San  
29 Diego first contingency DR is 16 MW, for a total of 189 MW in the SONGS  
30 study area. Second contingency DR in the SONGS study area accounts for 997  
31 MW, with 794 MW in LA Basin and 203 MW in San Diego.

---

<sup>4</sup> Revised Scoping Ruling, Attachment A, p. 2.

1

**Table 1 – SONGS Study Area Incremental DR assumptions in MW**

	2018 Forecasted / Modeled	2022 Forecasted / Modeled
LA Basin first contingency DR	173	173
LA Basin second contingency DR	794	794
San Diego first contingency DR	16	16
San Diego second contingency DR	203	203
Total SONGS Study Area first contingency DR	189	189
Total SONGS Study Area second contingency DR	997	997

2 Effectively, only a total of 189 MW are assumed to reduce LCR need in the  
3 SONGS study area. When adjusted for distribution losses, LCR quality DR is  
4 assumed to be 198 MW.

5 Furthermore, the current forecasted DR for 2022 is based on the most recent  
6 investor-owned utility (IOU) Annual Load Impact Reports. DRA notes that Load  
7 Impact Reports paint a conservative picture of first and second contingency DR  
8 because they exclude DR programs not currently in operation such as Advanced  
9 Metering Infrastructure (AMI) enabled DR. It is highly likely that the  
10 Commission will approve new AMI enabled DR programs between 2015 and  
11 2022, after the conclusion of current DR cycle (2012-2014). For example, D.12-

1 04-045 recently approved SDG&E’s Small Customer Technology Deployment  
2 (SCTD) program, which is a Home Area Network (HAN) based Automated  
3 Demand Response (ADR) technology enabling program. In D.12-04-045, the  
4 Commission expressed its expectations for SCTD

5 “to drive the market to develop HAN-related devices that are easy to self-install  
6 and available at a reasonable cost to the average customer. We also expect this  
7 program to encourage third party providers to offer HAN-based devices to  
8 customers.”<sup>5</sup>

9 On September 25, 2013, the Commission issued a Rulemaking (R.13-09-011) to  
10 enhance the role of demand response in meeting the state’s resource planning  
11 needs and operational requirements.<sup>6</sup> One of the goals of the staff proposal for  
12 demand response pilot projects to occur in 2015 is the introduction of automated  
13 technologies that shift or reduce load during peak hours. The work contemplated  
14 in this Rulemaking strengthens the case for existing Second Contingency DR  
15 programs to become able to meet First Contingency criteria and for new DR  
16 programs to emerge that can meet First Contingency criteria and reduce LCR  
17 need.

18  
19 **Q4. To the extent the Commission decides there is a LCR need in Track 4, do**  
20 **conservative EE and DR assumptions allow for a more aggressive procurement**  
21 **authorization of LCR quality preferred resources?**

22 **A4.** Yes. Significant potential exists for demand side resources to meet local capacity  
23 requirements. The Scoping Memo acknowledges that the demand response set of  
24 assumptions “leaves room for program growth.”<sup>7</sup> This acknowledgement is consistent  
25 with a recent Commission decision that states that “by 2020 it is likely that the actual  
26 amount available to reduce LCR needs in the LA Basin will be significantly higher –  
27 perhaps closer to DRA and [California Environmental Justice Alliance] CEJA’s estimates

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<sup>5</sup> D.12-04-045, p. 167.

<sup>6</sup> Order Instituting Rulemaking to Enhance the Role of Demand Response in Meeting the State’s Resource Planning Needs and Operational Requirements, September 25, 2013, available at: <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M077/K151/77151993.PDF>.

<sup>7</sup> Revised Scoping Ruling, Attachment A, p. 7.

1 of around 1000 MW.”<sup>8</sup> Also, the Commission expects the mid-level energy efficiency  
2 savings to occur across the SCE and SDG&E areas.<sup>9</sup>

3 DRA notes that the conservative energy efficiency and demand response assumptions  
4 adopted for Track 4 studies allow the Commission to pursue a more aggressive  
5 procurement authorization of demand response and of preferred resources in general. The  
6 Commission has already adopted this approach in the Track 1 decision, by authorizing  
7 procurement of preferred resources from a minimum of 150 MW to a maximum of 600  
8 MW.<sup>10</sup> DRA recommends the Commission allow potential “future EE and DR” that  
9 appears likely to be cost-effective to reduce the demand for conventional gas-fired  
10 resource procurement beyond the 600 MW of preferred resource capacity authorized in  
11 the Track 1 decision.

12 The Scoping Memo expects that second contingency DR could become more capable of  
13 meeting LCR needs by 2022.<sup>11</sup> Furthermore, a CPUC, CEC, and CAISO joint draft  
14 report (Reliability Plan) estimates that:

15 “Preferred resources beyond those already counted upon will need to meet  
16 approximately 1000 MW of the residual need in 2022. Note that this is in addition  
17 to already authorized preferred resources, and approximately 1000 MW of energy  
18 efficiency programs that are counted on in forecasting efforts but not yet  
19 authorized.”<sup>12</sup>

20 DRA agrees that approximately 1000 MW of preferred resources is a reasonable estimate  
21 of the potential for growth of LCR quality preferred resources. In its opening testimony,  
22 SDG&E estimates possible growth in DR, with the characteristics needed to address local  
23 grid reliability needs, at between 70 and 120 MW.<sup>13</sup> SDG&E also acknowledges it

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<sup>8</sup> D.13-02-015, p. 56.

<sup>9</sup> Revised Scoping Ruling, Attachment A, p. 4.

<sup>10</sup> Revised Scoping Ruling, Attachment A, p. 131.

<sup>11</sup> Revised Scoping Ruling, Attachment A, p. 2.

<sup>12</sup> Preliminary Reliability Plan for LA Basin and San Diego, DRAFT August 30, 201, p. 7.

<sup>13</sup> Prepared Track 4 Direct Testimony of San Diego Gas & Electric Company, August 26, 2013, Robert B, Anderson (SDG&E Opening Testimony/Anderson), p. 12.

1 currently has 20 MW of LCR quality DR,<sup>14</sup> but does not include any of this DR in its  
2 power flow input assumptions. SCE estimates a potential of 678 MW of preferred  
3 resources through its preferred resources “Living” Pilot Program (Pilot), split among  
4 energy storage, commercial roof top solar, demand response and energy efficiency.<sup>15</sup>  
5 SCE further explains that the amount of preferred resources in the target area was  
6 designed based on the amount of need that could reasonably be backstopped with  
7 development of gas-fired generation (GFG) sites.<sup>16</sup> This appears to imply the potential  
8 for additional preferred resources in the target area above and beyond SCE’s contingency  
9 plans in case expected levels of preferred resources do not materialize in a timely  
10 manner. As discussed in the testimony of DRA witness Rogers, extending OTC  
11 compliance dates may be another feasible contingency plan to allow time for the  
12 development of preferred resources that can reduce LCR need.

13 SCE’s living pilot targets preferred resources procurement for specific areas to meet LCR  
14 need in 2022. Because this targeted approach differs greatly from the current method of  
15 utility wide procurement, procurement of preferred resources in the targeted areas should  
16 begin prior to the 2016 timeframe set in SCE’s testimony. This would allow sufficient  
17 time for recruitment and ensuring that the reliability goals of the pilot are met. DRA  
18 supports this targeted procurement approach and recommends annual evaluations to  
19 determine the ability to procure these resources in local areas and their reliability in  
20 responding to dispatch. An expedited timeframe for such evaluations would be valuable  
21 in demonstrating the performance of preferred resources to avoid unnecessary  
22 procurement.

23 The Energy Action Plan guides California’s energy policies, setting forth a loading order  
24 of preferred resources to meet energy needs, which places energy savings from or  
25 reduction in need due to EE, DR, and distributed generation higher in the loading

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<sup>14</sup> SDG&E Opening Testimony/Anderson), p.12, footnote 12.

<sup>15</sup> Track 4 Testimony of Southern California Edison Company, August 26, 2013, (SCE Opening Testimony) Table III-1, p. 18.

<sup>16</sup> SCE Opening Testimony, p. 19.



1 order.<sup>17</sup> In this context, DRA supports capturing all the cost-effective preferred resource  
2 potential before contemplating the procurement of conventional generation. To the extent  
3 the Commission decides there is a LCR need in Track 4, DRA recommends the  
4 Commission authorize the procurement of preferred resources either through competitive  
5 solicitations, as authorized in Track 1, or through preferred resources “living” pilots  
6 implementation in both LA Basin and San Diego areas. In addition to a cost-effectiveness  
7 analysis of preferred resources, DRA recommends the Commission direct SCE and  
8 SDG&E to follow the critical actions identified in the Reliability Plan in their LCR  
9 procurement of preferred resources:

10 “Three critical actions for relying on development of additional preferred  
11 resources are: (1) an assessment of whether physical capabilities exist to produce,  
12 procure, install, and interconnect a heightened level of preferred resources, (2) an  
13 operational assessment to review the degree to which preferred resources and  
14 conventional resources can in aggregate meet the local reliability needs, and (3) a  
15 monitoring system to ensure that programs are implemented and achieve the  
16 impacts that are being relied upon.”<sup>18</sup>

17 **Q5. Should the Commission consider the Energy Storage targets contemplated in R.10-**  
18 **12-007 with regard to Track 4 procurement?**

19 **A5.** In the LTPP Track 1 decision, the Commission authorized procurement of 50 MW of  
20 energy storage to meet LCR need in the LA Basin. The Commission described this  
21 authorization as a “reasonable and modest level of targeted procurement of an emerging  
22 resources, and as an opportunity to assess the cost and performance of energy storage  
23 resources.”<sup>19</sup> In order to protect ratepayers against the exercise of market power by  
24 energy storage providers, SCE is required to either present contracts for least-cost best-fit  
25 energy storage resources to the Commission for approval, or “show that it should procure  
26 less than 50 MW because the bids it received were unreasonable.”<sup>20</sup> DRA recommends  
27 that the Commission develop procurement of energy storage to meet identified LCR

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<sup>17</sup> *Energy Action Plan II*, p. 2.

<sup>18</sup> Preliminary Reliability Plan for LA Basin and San Diego, DRAFT August 30, 2013 (Preliminary Reliability Plan, appended to the Testimony of Nika Rogers as Attachment A), p. 7.

<sup>19</sup> D.13-02-015, p. 62.

<sup>20</sup> D.13-02-015, p. 89.

1 needs in Track 1 in coordination with the Energy Storage proceeding and that the results  
2 of SCE's LCR procurement from Track 1 inform the proposed energy storage targets.

3 DRA supports a least-cost best-fit LCR procurement approach of energy storage  
4 resources where the IOUs incorporate the Energy Storage proceeding targets as part of  
5 their valuation methodology. IOUs should optimize their LCR procurement in order to  
6 minimize over-procurement of resources. A recent proposed decision (PD) in  
7 R.10-12-007<sup>21</sup> outlines energy storage procurement targets of 580 MW each for Pacific  
8 Gas and Electric Company (PG&E) and SCE and 165 MW for SDG&E through 2020.  
9 DRA recommends that any energy storage procurement in this LTPP proceeding should  
10 count towards meeting the Energy Storage PD targets. Furthermore, to the extent the  
11 Commission adopts the targets recommended by the Energy Storage PD, the procurement  
12 of energy storage resources should meet identified needs in the LTPP proceeding in order  
13 to maximize the value for ratepayers and avoid the procurement of redundant  
14 conventional generation resources. In other words, energy storage procurement should be  
15 least-cost best-fit, tailored according to LCR and operational flexibility needs identified  
16 in LTPP, and counted towards meeting LSE's RA requirements.<sup>22</sup>

17 **Q6. Should the Commission approve SCE's request for 500 MW of new generation**  
18 **resources and/or SDG&E's request for between 500 and 550 MW of new generation**  
19 **resources?**

20 **A6.** No. SCE and SDG&E have not demonstrated a need for new generation resources in the  
21 SONGS study area. SCE acknowledges that there is no LCR need under NERC  
22 Reliability Standards:

23 "The development of Mesa Loop-in and the strategically located Preferred  
24 Resources could displace the need for any additional new LCR resources, while  
25 still meeting NERC Reliability Standards. However, about 500 MW of new  
26 resources is still needed to meet the CAISO's higher expectation of need."<sup>23</sup>

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<sup>21</sup> Proposed Decision Adopting Energy Storage Procurement Framework and Design Program, issued September 3, 2013 in R.10-12-007, available at <http://docs.cpuc.ca.gov/SearchRes.aspx?DocFormat=ALL&DocID=76387254>

<sup>22</sup> This is in response to Administrative Law Judge (ALJ) Gamson's Question 2 from the September 4, 2013 prehearing conference (PHC). Reporter's Transcript, September 4, 2013, Prehearing Conference 4 (RT) at 318.

<sup>23</sup> SCE Opening Testimony, p. 3.

1 SDG&E states that it has a WECC-certified load shedding scheme in place to mitigate the  
2 N-1-1 contingency of the Southwest Powerlink and the Sunrise Powerlink and that load  
3 shedding is allowable for the N-1-1.<sup>24</sup> Furthermore, allowance of a load shedding  
4 scheme would reduce San Diego LCR need by over 1,000 MW.<sup>25</sup>

5 Assuming the Commission uses the CAISO's reliability standards and criteria to  
6 determine Track 4 LCR need, which are more conservative than NERC Reliability  
7 Standards, the range of LCR need for the SONGS study area identified in the CAISO's  
8 Track 4 studies is between 4,507 and 4,642 MW.<sup>26</sup> After accounting for up to 1,800  
9 MW<sup>27</sup> of LA Basin LCR resources authorized in Track 1 and 308 MW of SDG&E LCR  
10 resources authorized in D.13-03-029, the CAISO finds a range of LCR need for the  
11 SONGS study area between 2,399 and 2,534 MW.<sup>28</sup> Under the CAISO scenario in which  
12 SCE meets two-thirds of the need for new LCR generation in SONGS study area and  
13 SDG&E meets one-third, the SONGS study area LCR need is 2,399 MW.<sup>29</sup> Under the  
14 CAISO scenario in which SCE meets 80% of the need for new LCR generation in  
15 SONGS study area and SDG&E meets 20%, the SONGS area LCR need is 2,534 MW.  
16 When contemplating an authorization for new LCR resources in LA Basin, the  
17 Commission should use the scenario<sup>30</sup> that minimizes ratepayer cost and GHG emissions  
18 in the entire SONGS study area, and not just in the LA Basin.

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<sup>24</sup> Refer to Reply Testimony of Robert M. Fagan on Behalf of DRA for a discussion of mitigation options that include use of special protection systems (SPS) under certain contingency situations.

<sup>25</sup> Prepared Track 4 Direct Testimony of San Diego Gas & Electric Company, August 26, 2013, John M. Jontry (SDG&E Opening Testimony/Jontry), p. 7.

<sup>26</sup> Track 4 Testimony of Robert Sparks on behalf of the California Independent System Operator Corporation, August 5, 2013, (CAISO Opening Testimony), Table 13, p. 26.

<sup>27</sup> DRA assumes SCE will procure the maximum 1,800 MW authorized in Track 1 to meet LCR need. This is in response to Administrative Law Judge (ALJ) Gamson's Question 1.a. from the September 4, 2013 prehearing conference (PHC). RT at 316.

<sup>28</sup> CAISO Opening Testimony, Table 13, p. 26.

<sup>29</sup> CAISO Opening Testimony, Table 13, p. 26.

<sup>30</sup> There may be a scenario where SCE meets a certain percentage of SONGS study area LCR need and SDG&E meets the rest of SONGS study area LCR need which maintains reliability while minimizing ratepayer costs and GHG emissions for the entire SONGS study area. For example, in its power flow studies, SDG&E assumes a 61/39 split between SCE and SDG&E.

1 Assuming no load shedding is allowed in SDG&E's service area, SCE identifies in its  
2 power flow studies a reduction in new generation resources of 734 MW attributable to the  
3 Mesa Loop-in effect.<sup>31</sup> If load shedding is allowed in SDG&E's service area or if new  
4 generation is added inside SDG&E's service area and its import level is reduced, the  
5 Mesa Loop-in would reduce LCR need by up to 1,196 MW.<sup>32</sup> SCE also estimates  
6 approximately 678 MW of Preferred Resources, to be developed through its living pilot  
7 in addition to the Track 1 authorization, which would reduce the LCR need in the LA  
8 Basin by an additional 551 MW.<sup>33</sup>

9 In its power flow studies, SDG&E estimates possible growth in demand response that  
10 could reduce LCR need by between 70 and 120 MW, which gives a midpoint DR  
11 program growth estimate of 95 MW.<sup>34</sup> SDG&E also identifies in its Track 4 studies two  
12 major transmission additions that could reduce the SONGS study area (LA Basin + San  
13 Diego) LCR need by between 1,050 and 1,400 MW.<sup>35</sup> As outlined in SDG&E's  
14 testimony, these transmission solutions would reduce San Diego area LCR need by  
15 between 650 to 850 MW and LA Basin LCR need by between 400 and 551 MW.<sup>36</sup>  
16 However, if the benefit of these transmission solutions is limited to SDG&E only (rather  
17 than being shared with the LA basin), they may reduce SDG&E's LCR need up to entire  
18 amount of between 1,050 and 1,400 MW.<sup>37</sup>

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<sup>31</sup> SCE Opening Testimony, p. 37. DRA acknowledges that the Mesa Loop-in assumes there are 503 MW of sufficient generation out of LA Basin to meet load. DRA agrees with SCE's interpretation that the Commission will determine need for new system generation resources in other tracks of the LTPP and the Commission should not address any consequential out of LA Basin resource need in Track 4 of the LTPP.

<sup>32</sup> SCE Opening Testimony, p. 37.

<sup>33</sup> SCE Opening Testimony, Figure II-2, p. 10.

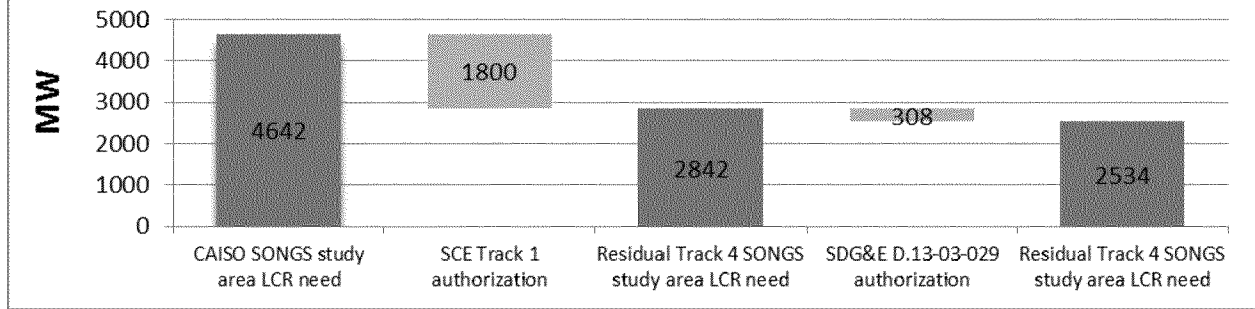
<sup>34</sup> SDG&E Opening Testimony/ Anderson, p. 12. The 70 to 120 MW range for growth in DR was estimated by subtracting SDG&E's request for new resources of between 500 to 550 MW from SDG&E's "identified need" of 620 MW.

<sup>35</sup> SDG&E Opening Testimony/ Jontry, Table 2, p. 11.

<sup>36</sup> SDG&E Opening Testimony/ Jontry, Table 2, p. 11.

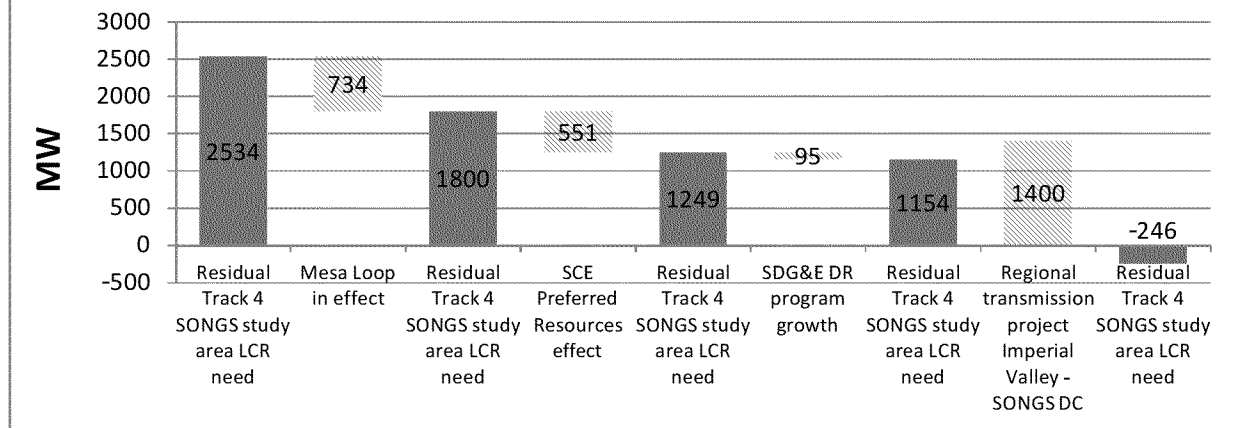
<sup>37</sup> See SDG&E response to DRA data request DRA-SDG&E-DR-03, SDG&E Response 01.a, appended as Attachment A.

**Figure 1: SONGS study area residual LCR need for 80%/20% scenario**



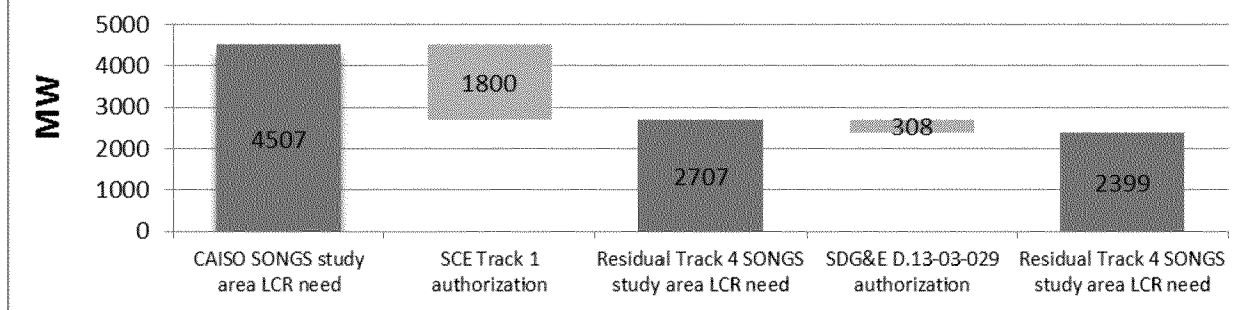
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**Figure 2: Residual Track 4 SONGS study area LCR need for 80%/20% scenario**



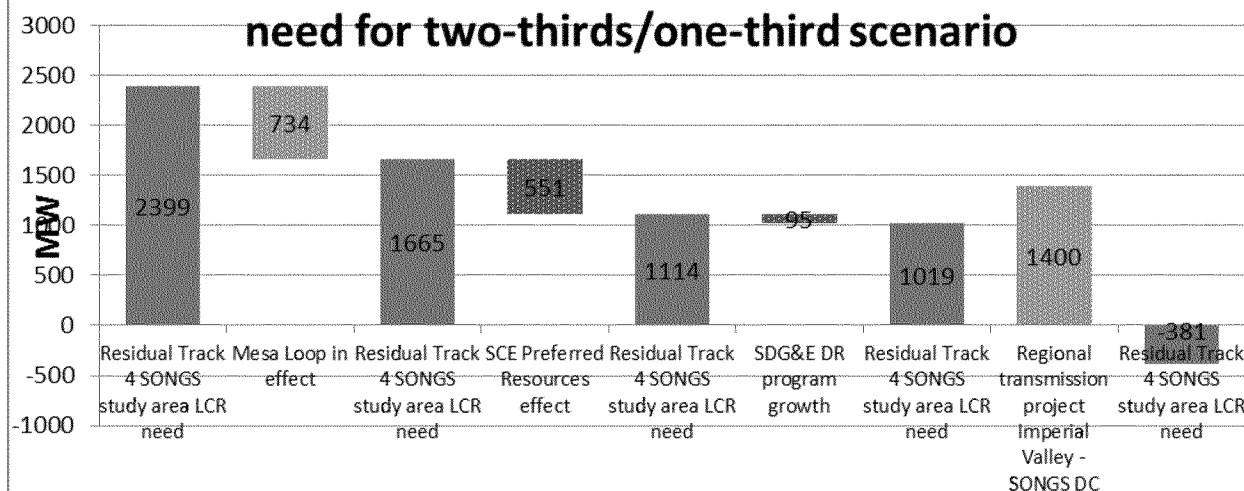
3  
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**Figure 3: SONGS study area residual LCR need for two-thirds/one-third scenario**



1  
2

**Figure 4: Residual Track 4 SONGS study area LCR need for two-thirds/one-third scenario**



3  
4

5 Figures 1 and 3 show residual SONGS study area LCR need after accounting for up to  
6 1,800 MW of LA Basin LCR resources authorized in Track 1 and 308 MW of SDG&E  
7 LCR resources authorized in D.13-03-029. Under the CAISO scenario in which SCE  
8 meets 80% of the need for new LCR generation in SONGS study area and SDG&E meets  
9 20%, there is a surplus of 246 MW as shown above in Figure 2. Under the CAISO  
10 scenario in which SCE meets two-thirds of the need for new LCR generation in SONGS  
11 study area and SDG&E meets one-third, there is a surplus of 381 MW as shown above in  
12 Figure 4. SCE and SDG&E power flow studies do not include a scenario which  
13 investigates the combined effect, on the SONGS study area LCR, of all conceptual  
14 reactive power and transmission solutions proposed by the IOUs. When contemplating an

1 authorization for new LCR resources in SONGS study area, the Commission should rely  
2 on power flow studies that look at the entire SONGS study area and minimize ratepayer  
3 cost and GHG emissions.

4 **Q7. Is there more than one solution to the equation for meeting the CAISO reliability**  
5 **standards in the SONGS study area?**

6 **A7.** Yes. As previously mentioned in my testimony, CAISO presents two separate SONGS  
7 study area total resource development scenarios: (1) SCE meets 80% of the need for new  
8 LCR generation and SDG&E meets 20%; or, (2) SCE meets two-thirds of the need for  
9 new LCR generation and SDG&E meets one-third. In the 80%/20% case, the CAISO  
10 finds a need for 1,922 MW of new LCR generation in SCE's LA Basin and for 612 MW  
11 of new LCR generation in SDG&E's service area.<sup>38</sup> In the two-thirds/one-third case, the  
12 CAISO finds a need for 1,222 MW of new LCR generation in SCE's LA Basin and for  
13 1,177 MW of new LCR generation in SDG&E's service area.<sup>39</sup> It is important to note that  
14 any procurement authorization in Track 4 for new LCR resources in SCE's LA Basin will  
15 reduce the LCR need in SDG&E's territory and vice-versa. Therefore, the Commission  
16 should choose the solution which ensures reliability and at the same time minimizes cost  
17 to ratepayers and GHG emissions for the entire SONGS study area.

18 Based on CAISO's Track 4 studies, the two-thirds/one-third scenario has the lowest total  
19 LCR new generation need for the entire SONGS study area. Assuming costs per MW,  
20 feasibility of resource development, etc., are similar for LA Basin and SDG&E service  
21 territory, the two-thirds/one-third would minimize total costs to ratepayers while  
22 maintaining reliability. There may be another scenario which further reduces LCR need  
23 for the SONGS study area. For example, SDG&E's power flow studies assume a 61/39  
24 LA/San Diego split,<sup>40</sup> but because SDG&E uses slightly different input assumptions than  
25 the CAISO it is difficult to tell whether this scenario would in fact have a lower LCR  
26 need than CAISO's two-thirds/one-third scenario.

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<sup>38</sup> CAISO Opening Testimony, Table 13, p. 26.

<sup>39</sup> CAISO Opening Testimony, Table 13, p. 26.

<sup>40</sup> See attached SDG&E response to DRA data request DRA-SDG&E-DR-03, SDG&E Response 02.a, appended as Attachment A.

1 In addition to optimizing the LCR generation split, the Commission should consider the  
2 effects of SCE and SDG&E's transmission solutions, taken together, on the entire  
3 SONGS study area.<sup>41</sup> In order for the Commission to make a LCR need determination  
4 for the SONGS study area which minimizes cost to ratepayers and GHG emissions, it  
5 must have results of power flow studies which include all of SCE and SDG&E's  
6 conceptual transmission solutions and any other solutions identified by CAISO to  
7 understand the interactions between these options and find the combination that most  
8 effectively reduces overall LCR need for the entire SONGS study area.<sup>42</sup> Ideally, the  
9 CAISO would perform these power flow studies, but if the Commission decides to  
10 proceed with an interim Track 4 authorization prior to the availability of the CAISO's  
11 updated power flow studies, then the Commission should, at a minimum, require SCE  
12 and SDG&E to submit supplemental joint power flow studies that show the effect of all  
13 identified LCR need reduction solutions on the entire SONGS study area.

14 **Q8. Should the Commission combine SCE's Track 4 procurement request with its**  
15 **current Track 1 procurement authorization?**

16 **A8.** SCE proposes that its 500 MW Track 4 request be combined with the 200 MW of Track  
17 1 LCR resources that can be sourced from any technology, provided the procurement is  
18 demonstrated to be consistent with the Preferred Loading Order.<sup>43</sup> SCE has not  
19 demonstrated a need for new generation resources in the SONGS study area.<sup>44</sup> Any  
20 savings from conducting one procurement process, as opposed to two separate  
21 procurement processes if CAISO's updated power flow analysis shows a LCR need for  
22 the SONGS study area in Track 4, are likely to be outweighed by the costs of over

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<sup>41</sup> SCE and SDG&E power flow studies do not analyze reductions in SDG&E's LCR need, and therefore in SONGS study area LCR need, attributed to Mesa Loop-in or Valley – Alberhill – San Onofre 500 kV transmission line project. See SCE response to data request CEJA\_DRA\_Sierra Club-SCE-004 appended at Attachment B and SDG&E response to DRA data request DRA-SDG&E-DR-03 and SDG&E Response 01.b, appended as Attachment A.

<sup>42</sup> Refer to Reply Testimony of Robert M. Fagan on Behalf of DRA for a discussion of DRA's recommendation for power flow analysis to be undertaken by CAISO in Track 4 or in the 2013-2014 LTPP (Question 23).

<sup>43</sup> SCE Opening Testimony, p. 55.

<sup>44</sup> See Question and Answer 6 above. SCE's power flow studies do not include a scenario which investigates the combined effect on the SONGS study area LCR of all conceptual reactive power and transmission solutions proposed by SCE and SDG&E.



1 procurement to ratepayers. SCE states that if “the CAISO’s updated analysis  
2 demonstrates that some or all of the 500 MW of Track 4 procurement authorization SCE  
3 has requested is unnecessary, the Commission can withhold its approval of a portion of  
4 SCE’s LCR contracts.”<sup>45</sup> SCE’s recommendation appears inconsistent with the  
5 September 16, 2013 “Assigned Commissioner and Administrative Law Judge’s Ruling  
6 regarding Track 2 and Track 4 Schedules” which states that “any procurement  
7 authorization will not be subject to further review based on additional evidence in this  
8 proceeding.”<sup>46</sup> In fact, SCE apparently contradicts its testimony position in the  
9 September 10, 2013 “Opening Comments on Schedule:” “SCE supports an interim  
10 decision to authorize Track 4 procurement, so long as the authorization is not subject to  
11 subsequent decrease in the final decision.”<sup>47</sup> DRA therefore recommends that the  
12 Commission adopt a conservative approach to authorizing resources and base its LCR  
13 need determination on power flow studies that show the effect of all identified LCR need  
14 reduction solutions on the entire SONGS study area.

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<sup>45</sup> SCE Opening Testimony, footnote 31, p. 57.

<sup>46</sup> Assigned Commissioner and Administrative Law Judge’s Ruling regarding Track 2 and Track 4 Schedules, September 16, 2013, pp. 3-4.

<sup>47</sup> SCE Opening Comments on Schedule, September 10, 2013, p. 1.

1 **QUALIFICATION OF WITNESS - RADU CIUPAGEA**  
2

3 Q.1 Please state your name and address.

4 A.1 My name is Radu Ciupagea. My business address is Energy Procurement and Planning  
5 Branch, Division of Ratepayer Advocates, California Public Utilities Commission, 505  
6 Van Ness Avenue, 4th floor, San Francisco, California.

7 Q.2 By whom are you employed and in what capacity?

8 A.2 I am employed by the California Public Utilities Commission as a Public Utilities  
9 Regulatory Analyst in the Division of Ratepayer Advocates (DRA) in the Energy  
10 Procurement and Planning Branch.

11 Q.3 Briefly describe your educational background and work experience.

12 A.3 I earned two Bachelor of Arts Degrees, in Economics and French, respectively, from the  
13 University of California at Berkeley.

14 I have been employed by the California Public Utilities Commission since February 1,  
15 2011. Since joining the CPUC, I have worked on the long-term procurement plan, cost  
16 allocation mechanism, demand response, distributed generation, low income energy  
17 efficiency, and low-income subsidy programs.

18 Q.4 Does that complete your prepared testimony?

19 A.4 Yes, it does.

# ATTACHMENT A

DRA DATA REQUEST  
DRA-SDG&E-DR-03  
SDG&E TRACK 4 – LTPP – R.12-03-014  
SDG&E RESPONSE  
DATE RECEIVED: SEPTEMBER 18, 2013  
DATE RESPONDED: SEPTEMBER 24, 2013

**DRA DATA REQUEST**  
**DRA-SDG&E-DR-03**  
**SDG&E TRACK 4 – LTPP – R.12-03-014**  
**SDG&E RESPONSE**  
**DATE RECEIVED: SEPTEMBER 18, 2013**  
**DATE RESPONDED: SEPTEMBER 24, 2013**

1. Page 11 of John Jontry’s testimony in Table 2 presents results of SDG&E’s power flow analysis using the N-1-1 reliability criteria with no allowable load shedding.
  - a. For scenarios 5 and 6, assuming no reduction in new generation requirement for the Western LA Basin, what is the maximum reduction in new generation requirement for San Diego (SD)? In other words, is it possible to get higher than 850 MW for scenario 5 and 650 MW for scenario 6, or the entire reduction of 1,401 MW for scenario 5 and 1,050 MW for scenario 6 in new generation requirement, in SDG&E’s service area only?
  - b. For scenarios 5 and 6, does the new generation requirement in Western LA Basin assume SCE’s Mesa Loop-in, preferred resources scenario, and/or Track 1 authorization of up to 1,800 MW of new generation resources?

**SDG&E Response 01:**

- a. Yes, it is possible to get a reduction in generation greater than 850 MW for scenario 5 and 650 MW for scenario 6 if the reduction is limited to reduction in generation in the San Diego LCR sub-area, if the generation reduction in the Los Angeles LCR area is reduced or eliminated. SDG&E has not determined the maximum reduction under these conditions. Preliminary indications are that it may be possible to apply the total reduction of 1,401 MW for scenario 5 and 1,050 MW for scenario 6 in new generation requirement solely to the San Diego LCR sub-area, but SDG&E has not confirmed this with the appropriate load-flow study work.
- b. For Scenarios 5 and 6, the new generation requirement includes the 1,800 MW of resources authorized in Track 1, but does not include SCE’s 500 kV Mesa Loop-In proposal or Preferred Resources Scenario.

**DRA DATA REQUEST**  
**DRA-SDG&E-DR-03**  
**SDG&E TRACK 4 – LTPP – R.12-03-014**  
**SDG&E RESPONSE**  
**DATE RECEIVED: SEPTEMBER 18, 2013**  
**DATE RESPONDED: SEPTEMBER 24, 2013**

2. Page 12 of John Jontry’s testimony in Table 3 presents results of power flow analysis using the N-1-1 reliability criteria with no allowable load shedding. CAISO’s scenarios study a 80/20 LA/SD split and a 67/33 LA/SD split.
  - a. For column SDG&E, what is the LA/SD generation split assumption studied? Please describe how SDG&E calculated the LA/SD split.
  - b. Has SDG&E calculated what the optimal LA/SD split is for minimizing entire SONGS area (LA + SD) LCR need, ratepayer costs, and GHG emissions?

**SDG&E Response 02:**

- a. For the row labeled “SDG&E”, the Los Angeles/San Diego split is 66/34 for the N-1-1 limiting contingency, 68/32 for the G-1/N-1 limiting contingency. However, it is more appropriate to compare the row labeled “SDG&E (including current need authorization)” to the CAISO’s results, as this includes the 300 MW of generation at Pio Pico in the calculated need. For the row labeled “SDG&E (including current need authorization)”, the Los Angeles/San Diego split is 61/39 for the N-1-1 limiting contingency, 63/37 for the G-1/N-1 limiting contingency. The split was calculated by dividing the SDG&E generation requirement by the total generation requirement for Southern California. The split was not determined ahead of time and then the load-flow cases set up to match the desired split; the generation need was determined through the power flow study work and then the actual split calculated.
- b. No

## ATTACHMENT B

Response of Southern California Edison to Question 4  
Data Request Set CEJA\_DRA\_Sierra Club-SCE-004  
Track 4  
2012 LTPP R.12-03-014

*Southern California Edison*  
2012 LTPP R.12-03-014

**DATA REQUEST SET CEJA\_DRA\_Sierra Club-SCE-004**

**To:** CEJA\_DRA\_SIERRA CLUB  
**Prepared by:** Daniel Donaldson  
**Title:** Power Systems Planner  
**Dated:** 09/17/2013

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**Question 04:**

Page 37 of SCE's testimony describes that another way to address the critical SDG&E C.3 contingency is by increasing the amount of new generation inside SDG&E's service area and reducing its import level.

a. Has SCE included in its power flow studies the 308 MW of new generation authorized in SDG&E's service area in D.13-03-029?

b. If the answer to question 4.a. is no, then how does the 308 MW in new generation in SDG&E's service area impact the Mesa Loop-in effect on LCR need in LA Basin, assuming no SDG&E load shed is allowed? Does it increase the Mesa Loop-in effect from 734 MW and if so by how many MW?

**Response to Question 04:**

a.) SCE relied on SDG&E inputs to represent facilities in the SDG&E service area. SCE modeled 1270 MW of new generation in SDG&E (Column K of Table III-4). Questions regarding specific authorization and the modeling of corresponding generation should be addressed to SDG&E.

b.) Although the specific MW benefit was not quantified, procurement of new generation in SDG&E (assuming no SDG&E load shed) would increase the effectiveness of the Mesa Loop-In by reducing LCR generation need in the LA Basin.