

**B0011**



**UTILITY CONSUMERS' ACTION NETWORK**

*3100 Fifth Ave. Suite B, San Diego, CA 92103*

Tel: (619) 696-6966 Fax: (619) 696-7477

Web: [www.ucan.org](http://www.ucan.org) e-mail: [mshames@ucan.org](mailto:mshames@ucan.org)

April 8, 2008

Susan Lee  
Vice President, SF Office  
Aspen Environmental Group  
235 Montgomery Street #935  
San Francisco, CA 94104

Billie Blanchard  
Public Utilities Commission  
505 Van Ness Ave.  
San Francisco, CA 94012

**Subject: A.06-08-010; Utility Consumers' Action Network (UCAN) Comments on Sunrise Powerlink DEIR**

*DELIVERED VIA E-MAIL*

Dear Susan & Billie,

Pursuant to the request made of UCAN by ALJ Weissman, accompanying this letter is a modified set of comments that specifically reference DEIR pages and assertions. A table of contents can be found at the end of the document. I trust that this modified set of comments will be of greater use to you in your EIR process. Please contact myself or David Marcus if you have any questions about the above.

Very truly yours,

*Michael Shames*

Michael Shames

## **I. Intro and Summary**

The Draft Environmental Impact Report developed by the CPUC staff and Aspen Consulting (hereinafter DEIR) demonstrates that there are feasible alternatives to the Sunrise project which are environmentally preferable. UCAN believes some of these same alternatives may also be economically preferable. In particular, UCAN believes that a variation on the Southern Route, or the No Action alternative, would each be preferable to the proposed project both economically and environmentally.<sup>1</sup> Thus, the Commission should reject SDG&E's proposed project.

## **II. Options 1-5 on pp. ES-2 to ES-4, plus the No Action alternative on p. ES-4**

The DEIR identifies a half dozen different options which are environmentally preferable to SDG&E's proposed project. These are identified as Options 1-5 on pp. ES-2 to ES-4, plus the No Action alternative on p. ES-4. In addition, as shown below, it is possible to identify alternative Southern Routes other than the "Environmentally Superior Southern Route" in the DEIR which are still environmentally preferable to the proposed project. Thus the key questions before the Commission are whether these environmentally preferable alternatives are also economically preferable, and whether they are feasible.

In Phase I of this proceeding, SDG&E identified three classes of benefits which it claims Sunrise would provide:

1. operational savings,

---

<sup>1</sup> UCAN has not analyzed the economics of some other alternatives – TE/VS and in-basin generation – which the DEIR found are also environmentally preferable to the proposed project. Thus there may be more than two alternatives to the Sunrise project which are superior to it on both economic and environmental grounds. However, the "Environmentally Preferred Northern Alternative" appears to be billions of dollars more expensive than the proposed project, and thus economically far inferior to either the No Action or the Southern Route alternatives.

2. reliability, and
3. deliverability for future renewable energy projects.

The costs to construct and operate the Sunrise project would offset these benefits. The DEIR, and other post-Phase I data discussed below, show that not only has SDG&E understated the cost to construct Sunrise, but also that other alternatives can provide the same three classes of benefits at a lower cost. As will be described below, UCAN believes that the Commission can find environmentally superior alternatives to SDG&E's proposed line that will impose lower costs upon the state's ratepayers and not despoil Anza-Borrego State Park.

## A. Costs to construct

### 1. Environmental mitigation for the Sunrise route identified in the DEIR

#### *a. DEIR, p. ES-27: Undergrounding costs add billions to the cost of Sunrise*

The most dramatic environmental drawback of the Sunrise proposal is that it would cross directly across the middle of the largest state park in California, the Anza-Borrego Desert State Park, including parts of the park which are designated State wilderness.<sup>2</sup> The DEIR suggests that these impacts could be mitigated, in part, by building the transmission facilities underground across all or almost all of the park. In addition, the DEIR suggests that the resultant Environmentally Superior Northern Route should also be undergrounded in several other areas outside of Anza-Borrego Desert State park.

The costs of the undergrounding proposed in the DEIR as mitigation along SDG&E's preferred route would be substantial. In rough terms, SDG&E estimated in Phase I that undergrounding a 230 KV line will cost over \$20 million per circuit mile.<sup>3</sup> The Environmentally Superior Northern Alternative would have 108 circuit-miles of underground 230 kV line,<sup>4</sup> much more than the 13 circuit miles of underground 230 kV line which SDG&E included in its Phase I cost estimates. The additional 95 circuit miles would cost, at \$20 million per circuit-mile, some \$1.9 billion dollars. This additional cost would be only slightly offset by the reduced miles of overhead line required by the mitigated Northern Route. Adding almost \$2 billion to the capital

---

<sup>2</sup> DEIR, p. ES-27

<sup>3</sup> Ex. SD-6, table following p. V-14, p. 2 of 4, showing a cost of \$118.0 million for a 4.2 mile underground double circuit section in the "Inland Valley Link."  $\$118/(4.2 \times 2) = \$14.05$  million/circuit mile. Adding 50.7% for contingency, AFUDC, and escalation (ibid., p. 4 of 4; contingency, AFUDC and escalation total \$425.7 million on top of a direct cost of \$839.1 million;  $425.7/839.1 = 0.5073$ ) raises the as-built cost to \$21.2 million/circuit mile ( $14.05 \times 1.507 = 21.17$ ). Similarly, the table following p. V-14, p. 2 of 4, showing a cost of \$64.0 million for a 4.8 mile underground single circuit section in the "Coastal Link."  $\$64/4.8 = \$13.33$  million/circuit mile. Adding 50.7% for contingency, AFUDC, and escalation (ibid., p. 4 of 4; contingency, AFUDC and escalation total \$425.7 million on top of a direct cost of \$839.1 million;  $425.7/839.1 = 0.5073$ ) raises the as-built cost to \$20.1 million/circuit mile.

<sup>4</sup> 54 miles of double circuit line. See DEIR, p. ES-3.

cost of Sunrise would completely obliterate any semblance of cost-effectiveness. As will be discussed below, while the undergrounding may be warranted, it isn't necessary given the non-park alternatives.

***b. DEIR, p. ES-3: Other mitigation costs***

At DEIR, p. ES-3, the DEIR identifies a plethora of other mitigation measures besides undergrounding which would be required to reduce the environmental impacts of SDG&E's proposed line. UCAN has no independent estimate of what these measures would cost to implement, but their costs would surely be collectively significant. SDG&E's preliminary estimate is that these DEIR measures would increase the cost of the proposed project by some \$200 million, in 2011 dollars.<sup>5</sup> Thus, the previously disclosed \$1.265 billion cost of SDG&E's proposal would now be over \$1.5 billion because of deferral to 2011 plus mitigation costs.<sup>6</sup> Deferral to 2012 would raise the cost of SDG&E's proposal to over \$1.6 billion.<sup>7</sup>

**2. DEIR, p. C-4: Environmentally preferred Southern Route**

At DEIR, p. C-4, the DEIR addresses feasibility. SDG&E will likely argue that because the Environmentally Superior Northern Route would be so expensive to construct (due to the required undergrounding and other mitigation), it should be rejected on cost grounds as "financially infeasible."<sup>8</sup> But the cost to construct even SDG&E's original proposal may well be tens, or even hundreds, of millions of dollars more expensive than the cost to construct the Environmentally Superior Southern Route which is discussed at length in the DEIR.

First, some undisputed facts about the Environmentally Superior Southern Route; it would have 83 miles of 500 kV overhead line (8 miles less than Sunrise),<sup>9</sup> 11.8 circuit-miles of

---

<sup>5</sup> SDG&E, 3/7/07, attachment to response to UCAN DR35-12. The \$200 million figure consists of \$94 million for "environmental mitigation" and \$106 million for "construction mitigation" and is "additive" to previously provided SDG&E cost estimates.

<sup>6</sup> \$1.265 billion for a 2010 on-line date, per Ex. SD-6, p. V-11. \$200 million in mitigation costs, in 2011 dollars. Additional escalation from 2010 to 2011 for the \$1.265 billion figure of over 5 percent, based on the increase in Sunrise revenue requirements shown in confidential attachment JJS-4 to Ex. SD-28C. 5% of \$1.265 billion is \$63 million. \$1.265 billion + \$200 million + \$63 million = \$1.528 billion.

<sup>7</sup> The previous footnote documents a 5%+ percent per year escalation rate, based on Ex. SD-28C, and a \$1.528 billion capital cost for a 2011 in-service date. 5 percent of \$1.528 billion is over \$76 million, which would make the total cost with a 2012 in-service date more than \$1.6 billion.

<sup>8</sup> See DEIR, p. C-4, for a discussion of economic feasibility and CEQA.

<sup>9</sup> 83 miles of 500 kV line for the Environmentally Superior Southern Route, per DEIR, p. ES-57; 91 miles for Sunrise per DEIR, p. ES-5. 91 minus 83 = 8.

underground 230 kV line (1.4 miles less than Sunrise),<sup>10</sup> and 21 miles of overhead 230 KV line (29 miles less than Sunrise).<sup>11</sup>

Based on SDG&E's Phase I cost estimates, the Environmentally Superior Southern Route would cost some \$60 million less than SDG&E's proposed project, even if the proposed project were modified to use the RPCC-alternative for the Coastal Link.<sup>12</sup> Specifically, the Environmentally Superior Alternative would cost about \$22 million less than Sunrise (with the RPCC alternative) for 500 KV lines,<sup>13</sup> about \$73 million less than Sunrise for overhead 230 kV lines,<sup>14</sup> about \$68 million more than Sunrise for underground 230 KV lines,<sup>15</sup> and about \$33 million less than Sunrise for underground 69 kV and 92 kV lines.<sup>16</sup>

The \$60 million cost advantage for the Southern Route does not take into account SDG&E's preliminary estimate in Phase II of another \$52 million worth of Southern Route cost advantage from lower mitigation costs. SDG&E has estimated, preliminarily, that the mitigation measures proposed in the DEIR for the Environmentally Superior Southern Route would increase its cost by \$154 million in 2012 dollars, but the corresponding measures proposed for the Sunrise route would increase its cost by \$200 million in 2011 dollars.<sup>17</sup> Since the \$200 million figure is for 2011, it should be escalated to 2012 dollars to be comparable to the \$154 million figure.<sup>18</sup> Using a general inflation rate of 3 percent would increase the \$200 million figure to \$206 million. Thus, the cost advantage of the Southern Route over the Sunrise proposal would

---

<sup>10</sup> 5.9 miles underground (DEIR, p. ES-3) x two circuits = 11.8 circuit miles for Environmentally Superior Southern Route. 4.2 miles of underground double circuit and 4.8 miles of underground single circuit add up to 13.2 circuit-miles of underground 230 kV for the proposed project. 13.2 minus 11.8 = 1.4.

<sup>11</sup> 104 miles total overhead (DEIR, p. ES-3) minus 83 miles of 500 kV overhead (DEIR, p. ES-57) equals 21 miles of overhead 230 KV line for the Environmentally Superior Southern Route. 141 miles total overhead (DEIR, p. ES-4) minus 91 miles of 500 kV overhead (DEIR, p. ES-5) equals 50 miles of overhead 230 kV line for the proposed Sunrise route. 50 minus 21 equals 29. Of those 29 extra miles, 9 miles would be overhead single-circuit between Sycamore Canyon and Penasquitos, and the other 20 miles would be overhead double circuit.

<sup>12</sup> The RPCC Alternative, which is part of the Environmentally Superior Northern and Southern Alternatives, eliminates all transmission lines west of Sycamore Canyon substation.

<sup>13</sup> Ex. SD-6, table following p. V-14, pp. 3-4 of 4, showing 500 kV costs of \$155.975 million for the 84 miles of "Desert Link" line, plus 50.7 percent for contingency, AFUDC, and escalation to 2010, for a total of \$2.8 million/mile.  $8 \times \$2.8 = \$22.4$  million.

<sup>14</sup> Ex. SD-6, table following p. V-14, pp. 3-4 of 4, showing 230 kV costs of \$50.775 million for the 21 miles of "Inland Valley" 230 kV line, plus 50.7 percent for contingency, AFUDC, and escalation to 2010, for a total of \$76.5 million.  $20/21 \times \$76.5 = \$72.9$  million.

<sup>15</sup> 5.9 miles of Southern Route underground double-circuit 230 kV line (DEIR, p. ES-4) vs. 4.2 miles of Sunrise project double-circuit underground line east of Sycamore valley (DEIR, p. ES-11), at \$20 million/circuit-mile. Note that if the RPCC Alternative were not adopted, the Sunrise alternative would also include over \$96 million for underground 230 kV line in the "Coastal Link" settlement (Ex. SD-6, table following p. V-14, pp. 2 and 4 of 4, showing underground 230 kV costs of \$63.983 million for the "Coastal Link" 230 kV line, plus 50.7 percent for contingency, AFUDC, and escalation, for a total of \$96.4 million).

<sup>16</sup> Ex. SD-6, table following p. V-14, pp. 1-2 and 4 of 4, showing underground 69 and 92 kV costs of \$22.092 million in ABDSP, plus 50.7 percent for contingency, AFUDC, and escalation, for a total of \$33.3 million. None of these costs would be incurred with the Southern Route.

<sup>17</sup> SDG&E, 3/7/08 attachment to the 3/6/08 response to UCAN DR35-12. Footnote 4 to the attached spreadsheet shows that the two cost figures cited are in different year's dollars.

<sup>18</sup> See the ex parte notice of the California Parks and Recreation department regarding required time for an ABDSP General Plan Amendment for the Sunrise route, which strongly suggests that the Sunrise route and the Southern Route should both be evaluated with the same on-line date.

increase by a further \$52 million, to \$112 million, when the two are compared with the same in-service date and with mitigation costs included for both.<sup>19</sup>

The \$112 million figure is the capital cost advantage of the Environmentally Superior Southern Route over the proposed Sunrise route. It assumes the RPCC alternative is used for the Coastal Link of the Southern Route, as proposed in the DEIR, and that the RPCC alternative is also used for the Sunrise route. If the Sunrise proposal included a Coastal Link consistent with SDG&E's CPCN application (a 230 kV line to Penasquitos), that would increase the cost of the Sunrise proposal by at least \$77 million.<sup>20</sup> In that case, the Southern Route would be \$189 million cheaper than SDG&E's proposed route.

### **B. DEIR, p. ES-19: Sunrise "3-legged stool" of benefits quantified by the DEIR are in error**

SDG&E has long claimed that Sunrise should be approved based on a triad of justifications: that it will maintain reliability, promote renewable energy, and reduce costs.<sup>21</sup> The DEIR accepts these three justifications as the "Basic Project Objective[s]" for Sunrise or any alternative.<sup>22</sup> However, in each case the DEIR fails to adequately quantify the extent to which Sunrise is necessary to achieve the objective, and the extent to which Sunrise achieves the objective.

At DEIR, p. ES-20, the DEIR lists one of the three "Basic Project Objectives" as "to accommodate the delivery of renewable energy ... from geothermal and solar resources in the Imperial Valley and wind and other sources in San Diego County."<sup>23</sup> However, the eight SDG&E objectives do not include any mention of wind energy, or any mention of renewable energy resources outside of Imperial County.<sup>24</sup> And neither the eight SDG&E objectives nor the three DEIR "Basic Project Objectives" mention renewable resources in Mexico. Nevertheless, UCAN

---

<sup>19</sup> Arguably, the \$112 million should be slightly increased to account for the fact that the \$60 million share representing construction costs is based on cost estimates from Phase 1 for a 2010 in-service date. UCAN has not attempted to adjust SDG&E's Phase 1 cost estimates to reflect a post-2010 in-service date for either Sunrise or a Southern Route. To the extent SDG&E's March 12 filing uses post-2010 in-service dates or non-Phase I construction cost estimates, UCAN will address them in its rebuttal testimony.

<sup>20</sup> RPCC alternative cost of \$78.8 million for a 2012 on-line date, per SDG&E 3/7/08 attachment to supplemental response to UCAN DR35-2. Sunrise project Coastal Link cost estimate from Phase 1, Ex. SD-6, last four pages of Chapter V of \$141.7 million, based on 1/3 of "Coastal Substation" costs at Sycamore Canyon plus "Coastal Substation" costs at Penasquitos plus "Coastal Transmission Underground" costs plus "Coastal Transmission Overhead" costs plus an adder of slightly over 50 percent for contingency, AFUDC, and escalation. Adding 5+% per year for escalation from 2010-2012 (per Ex. SD-28C, as referenced above) raises the cost of SDG&E's Coastal Link proposal to at least  $\$141.7 \times 1.05 \times 1.05 = \$156.2$  million.  $\$156.2$  million minus  $\$78.8$  million =  $\$77.4$  million.

<sup>21</sup> DEIR, p. ES-19.

<sup>22</sup> DEIR, p. ES-20.

<sup>23</sup> DEIR, p. ES-20.

<sup>24</sup> SDG&E PEA, as summarized in DEIR, p. ES-19.

believes that SDG&E is now claiming increased deliveries of Mexican wind generation along with eastern San Diego wind generation and Imperial County renewable generation as project benefits, if not objectives. Thus the discussion below deals with the deliverability of renewable generation with and without Sunrise from all three areas (northern Baja for wind, eastern San Diego County for wind, and Imperial County).

In Phase I of this proceeding, the ISO admitted that construction of the planned GPN line by IID and LADWP would enable the delivery of up to 2000 Mw of new generation from Imperial County to the Southern California grid. What has changed since Phase I is that the ISO now expects GPN to be built with or without Sunrise,<sup>25</sup> so that access to the next 2000 Mw of new IV generation will exist with or without Sunrise. In addition to the generic 2000 Mw of wind deliverability identified by the ISO in Phase I, a recent ISO deliverability study shows 1561 Mw of specific wind and solar projects planned for delivery to SDG&E that can be fully delivered in the presence of Green Path North.<sup>26</sup> Those 1561 Mw include only projects with ISO queue positions up to 150, and do not include the additional 400-1250 Mw of deliverable imports of wind energy from Mexico in the Sempra proposal to import Mexican wind generation (400 Mw in Sempra Presidential Permit Application, Exhibit E and in ISO queue project number 159A; 1250 Mw in text of Sempra Presidential Permit Application).<sup>27</sup>

GPN is not part of any of the alternatives identified in the DEIR. Based on the Phase I testimony of IID regarding its commitment to pursuing GPN,<sup>28</sup> the fact that GPN has already reached the third (and final) step in WECC review and approval,<sup>29</sup> and the fact that the ISO is now assuming GPN will be built as part of its LCR and deliverability studies,<sup>30</sup> it would seem to be appropriate to consider construction of GPN as a project that will be built with or without Sunrise. It is certainly appropriate to consider GPN as part of the No Action alternative, a project that will be built if Sunrise is not built. In either case, achieving the DEIR's "Basic Project Objective" number three does not require the construction of Sunrise, and that objective can be met in the absence of Sunrise, including the No Project alternative.<sup>31</sup>

The DEIR also errs in not adequately considering that IID opposes SDG&E's Sunrise route, and has already built and is planning to build multiple alternative means of delivering

---

<sup>25</sup> ISO, 12/28/07, 2010-12 LCR analysis, p. 64 of 77, at <http://www.caiso.com/1cc2/1cc2dab86fd50.pdf>.

<sup>26</sup> ISO Deliverability Study for SCE and SDG&E, SDG&E tab, updated 2/28/08 per cell L2. See <http://www.caiso.com/1f47/1f4791af23910.xls>.

<sup>27</sup> ISO Deliverability Study for SCE and SDG&E, SDG&E tab, updated 2/28/08 per cell L2, lines 11, 13, 18, 19, and 22; the 12/18/07 Sempra Presidential Permit Application is available at [http://www.oe.energy.gov/DocumentsandMedia/Sempra\\_Application\\_\(PP-334\).pdf](http://www.oe.energy.gov/DocumentsandMedia/Sempra_Application_(PP-334).pdf).

<sup>28</sup> See UCAN Phase I brief and IID testimony in Phase I.

<sup>29</sup> See IID redirect testimony in Phase I.

<sup>30</sup> ISO, 12/28/07, 2010-12 LCR analysis, p. 64 of 77, at <http://www.caiso.com/1cc2/1cc2dab86fd50.pdf>; ISO Deliverability Study for SCE and SDG&E, at <http://www.caiso.com/1f47/1f4791af23910.xls>

<sup>31</sup> At least one Commissioner has long since recognized that delivery of renewable generation from the Imperial Valley does not require two new 500 kV lines out of the Imperial Valley on top of the two 500 kV lines that already exit the Valley (Imperial Valley-Miguel and Imperial Valley-North Gila). See Attachment A, quote from California Energy Circuit reporting on the February 2006 testimony by Mr. Peevey to the California Senate Energy, Utilities and Telecommunications Committee.

Imperial County renewables to the larger grid. Since the close of the Phase I record, IID has prepared a summary of its renewable resource transmission efforts which indicates that (a) IID already has over 1000 Mw of excess transmission capacity available from current transmission projects to deliver energy from future renewable resource projects,<sup>32</sup> (b) IID's 230 kV Dixieland project will increase its export capability to the CAISO grid by 400 Mw,<sup>33</sup> (c) IID is planning new transmission lines to the north (GPN) to connect to LADWP and SCE, and to the east (Highline-Knob-North Gila line) to connect to APS and the SWPL line.<sup>34</sup>

Neither GPN, the Dixieland Project, nor the Highline-Knob-North Gila line appear to be part of any of the alternatives analyzed in the DEIR. Given the commitment of both IID and the state to the development of renewable resources, it would seem likely that as much of those three projects as needed to deliver renewables will be built in the No Action case, and possibly even if Sunrise is built. Thus Sunrise would not be needed to achieve the DEIR's "Basic Project Objective" number three,<sup>35</sup> and that objective could be met in the absence of Sunrise, including the No Action case.

Finally, the DEIR fails to consider that delivering renewables is only a valid goal if those renewables actually exist. By far the biggest Imperial County renewable project under contract to SDG&E (or anyone else)<sup>36</sup> is the 900 Mw proposed Stirling Energy Systems (SES) solar project. Seven months ago, the CEC's August 2007 "Energy Facility Status" report showed the planned AFC filing date for the SES project was three months away, in November, 2007.<sup>37</sup> Now the CEC's March 6, 2008 "Energy Facility Status" report shows the planned AFC filing date for the SES project is still two months away, in May 2008.<sup>38</sup> At that rate, of course, SES will likely not file its AFC application, let alone get a permit and build anything, in the time frame contemplated by the parties to the contract.<sup>39</sup> Moreover, a recent trade press article about a competing solar thermal technology suggests that the SES project may be economically uncompetitive even within its own particular niche (solar dish systems). This report calls into further question whether SES could comply with its contract obligations to SDG&E even if it filed an AFC and received approval from the CEC.<sup>40</sup>

---

<sup>32</sup> Frank Barbera, IID, 12/07, "Creating a New Path for the Imperial Valley," attachment to IID ex parte notice of 12/13/07 in this proceeding, at p. 17

<sup>33</sup> Ibid., pp. 11-12.

<sup>34</sup> Ibid., pp. 12-13.

<sup>35</sup> Indeed, IID is apparently quite concerned about the converse – that Sunrise will cause its new transmission projects to become stranded assets because the grid does not need both the Sunrise project and IID's new transmission projects. The obvious solution, to both assuage IID's fears and save ISO ratepayers money, is to deny SDG&E permission to build the Sunrise project as proposed.

<sup>36</sup> Ex. U-48.

<sup>37</sup> Ex. U-43.

<sup>38</sup> [http://www.energy.ca.gov/sitingcases/all\\_projects.html](http://www.energy.ca.gov/sitingcases/all_projects.html).

<sup>39</sup> See confidential Ex. SD-7C, p. III-11, showing that SDG&E previously projected an initial Stirling generation on line date which is now impossible to achieve.

<sup>40</sup> Energy Prospects West, 2/19/08, at [http://www.energyprospects.com/cgi-bin/package\\_display.pl?packageID=2516](http://www.energyprospects.com/cgi-bin/package_display.pl?packageID=2516). See also the brief and testimony of CBD in Phase I of this proceeding for extensive discussion of the implementation difficulties facing the SES project.



UCAN offers this information to support a finding that the SES project is not viable in any near-term time frame. Thus, the need for Sunrise (or anything else) to meet the DEIR's "Basic Project Objective" number three is diminished if not eliminated. The DEIR did not appear to take this recent information into account.<sup>41</sup>

SDG&E may dispute UCAN's lack of faith in the Stirling project. But if Stirling is built on schedule, then it will be generating before Sunrise can be finished in 2011-12, undercutting SDG&E's claim that the Sunrise line is needed to deliver Stirling's output.<sup>42</sup>

**C.. DEIR, pp. ES-9, ES-30, ES -31: Sempra's 500 KV line to Mexico from SWPL, and a 500/230 kV substation in Mexico, suggest that either Sunrise is not needed to deliver renewables or that a Southern Route would be more appropriate for interconnecting to Mexican wind**

Since the completion of Phase I of this proceeding, and just prior to the publication of the DEIR, Sempra Generation has filed an application to DOE for a Presidential Permit to build a new 500 kV transmission line from Mexico to the U.S. to deliver up to 1250 Mw of wind generation from Baja California to the existing SWPL line in San Diego County. At DEIR, pp. ES-9, ES-30, ES-31, the DEIR treats development of wind generation in Mexico and eastern San Diego County as a "connected action" which would result from approval of Sunrise or the Northern or Southern Environmentally Preferred Routes, and includes a discussion of an expected new Jacumba 230/500 KV substation to connect that generation to SWPL.<sup>43</sup> However, the actual Presidential Permit Application identifies a different substation type and location,<sup>44</sup> and undercuts the DEIR assumption that wind generation connected to SWPL would only occur if a new 500 KV line from Imperial Valley to San Diego (Sunrise, or a Northern Route or Southern Route alternative) is built.

---

<sup>41</sup> The DEIR **does** identify four locations within the proposed Stirling solar array containing human remains. DEIR, Appendix 9B, Table Ap.9B-37. SDG&E has identified the presence of a single site containing human remains as a possible barrier to the feasibility of the Environmentally Superior Southern Route (SDG&E, 3/7/08 response to UCAN DR36-1, referencing DEIR p. E.1.7-2, which in turn references site CA-SDI-1706. While UCAN does not see how SDG&E can be right that a site with human remains is, per se, a fatal barrier to feasibility (given that the DEIR identifies multiple sites with human remains along the SDG&E-proposed route; see DEIR Appendix 9B, Tables Ap.9B-2, -6, -10, -11, -12, -13, -18, and -20), the presence of human remains on the proposed Stirling site may well impose some further constraints on Stirling development beyond those already identified.

<sup>42</sup> SDG&E says "SDG&E's contract with Stirling Energy Systems could deliver as much as 900 MW of solar power from the Imperial Valley to our region, but not unless the Sunrise Powerlink is built." See [http://www.sdge.com/sunrisepowerlink/info/Myth\\_v\\_Fact.pdf](http://www.sdge.com/sunrisepowerlink/info/Myth_v_Fact.pdf).

<sup>43</sup> See, e.g., DEIR, pp. ES-9, -30, -31.

<sup>44</sup> The 12/18/07 Sempra Presidential Permit Application, available at [http://www.oe.energy.gov/DocumentsandMedia/Sempra\\_Application\\_\(PP-334\).pdf](http://www.oe.energy.gov/DocumentsandMedia/Sempra_Application_(PP-334).pdf), shows the substation as 500 KV only (but with a 230 KV option), and shows it located immediately west of the Imperial County border, at about mile 30 of the I-8 Southern Route alternative. This location is about 5 miles east of the Jacumba substation location identified in the DEIR.

The Sempra “Presidential Permit” application referenced above shows a powerflow for a 2009 case in which 860 Mw of wind generation is interconnected to the SWPL line and over 2000 Mw flows into Miguel via SWPL. That powerflow has only 400 Mw of Sempra wind generation in Mexico, with the other 460 Mw coming from U.S. wind sources,<sup>45</sup> even though the Application is for 1250 Mw.<sup>46</sup> Thus, at least the first 860 Mw of new wind renewable generation interconnecting to SWPL appears not to require construction of Sunrise (unless Sempra is misleading the DOE regarding the viability of a 2009 interconnection to SWPL). We note that this directly contradicts the Phase 1 testimony of SDG&E witness Linda Brown, and partially contradicts the DEIR finding that a new substation at Jacumba is a related action triggered by the construction of Sunrise. The DEIR says that “the existing SWPL could accommodate approximately 300 Mw of wind generation,”<sup>47</sup> but the Sempra application suggests the real number is at least 860 Mw. Thus the representations to DOE in the Sempra application imply that Sunrise is not needed to meet the Basic Objective number three, and that objective number three can be met in the absence of Sunrise, even in the No Action alternative.

The Sempra application shows that adding 400 Mw of Mexican wind generation increases flows into Miguel by 115 Mw (the other 285 Mw effectively flows east towards IV and Arizona, reducing IV-to-SWPL flows by 285 Mw).<sup>48</sup> Adding another 850 Mw of Sempra Mexican wind generation, if it had the same proportional impact,<sup>49</sup> would increase flows into Miguel by another 244 Mw,<sup>50</sup> which would exceed the SWPL line rating and the allowable flows through the Miguel transformers and Miguel outlet lines.<sup>51</sup>

Building a Southern Route would allow Mexican and U.S. wind generation to connect to the Southern Route as well as to SWPL, and thus would provide alternatives to overloading SWPL and/or Miguel. A Southern Route alternative would also create the option of phasing construction, with the Jacumba-Sycamore Canyon section built first if increased Mexican generation precedes increased IV renewable generation, as the ISO queue suggests will be the case.<sup>52</sup>

---

<sup>45</sup> ISO Queue projects 106A and 112, whose sources are shown by the ISO as being in San Diego County. See Sempra Application, Exhibit E, and the 2/29/08 ISO queue, available at <http://www.caiso.com/14e9/14e9ddda1ebf0.pdf>.

<sup>46</sup> The Sempra application promises DOE that a powerflow reflecting the full 1250 of planned Mexican wind generation by Sempra will be provided to due in the “first quarter of 2008.”

<sup>47</sup> DEIR, p. C-150.

<sup>48</sup> Sempra Application, Exhibit E.

<sup>49</sup> Sempra has not yet provided DOE with powerflows with the full 1250 Mw of proposed Mexican generation on line, which would show whether the assumed proportionality actually holds true.

<sup>50</sup>  $115/400 \times 850 = 244$  Mw.

<sup>51</sup> 2067 Mw with 400 Mw of Mexican wind, plus 244 Mw more with 1250 Mw of Mexican wind, equals 2311 Mw. 2311 Mw exceeds the N-0 rating of SWPL (2250 Mw), the SDG&E-asserted Miguel outlet capacity (1900 Mw) and the currently allowable flow through the Miguel transformers prior to the UCAN-proposed (and ISO-endorsed) transformer cross-trip proposal (1400-1750 Mw).

<sup>52</sup> The ISO queue shows 1160 Mw of wind interconnections to SWPL with planned operating dates in 2008-09 that are earlier than any planned dates for interconnections at the IV substation (and also earlier than any proposed operating date for Sunrise). See ISO queue, 2/29/08, at <http://www.caiso.com/14e9/14e9ddda1ebf0.pdf>, projects 106A, 112, 159A (Sempra), and 183.

Both the DEIR and the Sempra application show proposed sites for the Jacumba substation which are in the area of San Diego County where the Southern Route and SWPL are still immediately parallel to one another.<sup>53</sup> Starting the Southern Route at Jacumba instead of Imperial Valley would save at least 30 miles of 500 kV construction costs, and eliminate environmental impacts in Imperial County. Starting construction of the Southern Route at Jacumba would still allow eastern San Diego and Mexican wind to be delivered over SWPL and/or the Southern Route (DEIR Basic Project Objective 3). It would allow generation interconnected at Jacumba to count for reliability (since there would be two transmission lines, in different corridors, connecting Jacumba to Miguel and Sycamore Canyon respectively). If the wind generation projections in the ISO queue are true, then just the projects proposed to interconnect at Jacumba or west of it would be enough to meet the DEIR's Basic Project Objective 1 (maintain reliability).<sup>54</sup> A southern Route starting at Jacumba would also satisfy DEIR Basic Project Objective 3 (deliver new renewables). And it would presumably meet Objective 2 as well (reduce costs), because of its lower construction costs.<sup>55</sup> The DEIR never identifies, let alone addresses, the option of a Southern Route from Jacumba to Sycamore Canyon as an alternative to Sunrise.

A Southern Route would also be preferable to a Northern Route if it allows the construction of only one or two new 500 kV substations instead of as many as five, as could occur with current SDG&E and Sempra plans. SDG&E is contemplating one or two new substations at Jacumba (to intertie Mexican and San Diego County wind generation to SWPL),<sup>56</sup> as well as new substations at Central (to convert from 500 kV to 230 kV), San Felipe (a primarily IID 230/500 kV substation to intertie IID to the Northern Route/proposed Sunrise route) and in Mexico (a Sempra Generation substation to convert wind generation from 230 to 500 kV). With a Southern Route, the San Felipe 230/500 kV substation would be completely unnecessary. In addition, the Jacumba 500 kV and/or 230/500 kV substation(s) and the 230/500 kV substation to convert the Southern Route line from 500 kV to 230 kV might be combinable into one or two

---

<sup>53</sup> Between mileposts 30 and 40. See DEIR, Figure ES-17, p. ES-57.

<sup>54</sup> The existing wind project in eastern San Diego County, Kumeyaay, has an installed capacity of 48 Mw (ISO queue, 2/29/08, project 18) and provides 10 Mw of capacity for reliability purposes (Ex. SD-6, p. IV-25). At that ratio of reliable capacity to installed capacity, the 1361 Mw of ISO queue wind projects in San Diego County and Mexico with planned on-line dates before 2010 (ISO queue, 2/29/08, projects 32, 106A, 112, 159A, and 183) would provide  $1361 \times 10/48 = 284$  Mw of reliable capacity, and the 820 Mw of projects with 2010-11 planned on-line dates and planned SWPL interconnections (ISO queue, 2/29/08, projects 209 and 215) would provide another  $820 \times 10/48 = 171$  Mw of reliable capacity. (Another 500 Mw of Mexican wind planned to interconnect at Miguel would provide a further  $500 \times 10/48 = 104$  Mw of reliable capacity). 559 Mw of new firm capacity from wind projects connected to SDG&E within San Diego County would be enough to meet SDG&E's reliability needs until 2018 with ISO numbers (ISO Phase I OB, p. 21, Table V-1, line 22), and beyond that with UCAN numbers (UCAN, Phase I OB, Table 1).

<sup>55</sup> As far as the economics of access to low cost generation in Arizona, neither Sunrise as proposed nor a southern route starting in Jacumba increases transmission capacity east of Imperial Valley, so presumably either provides the same amount of access to low-cost Arizona and New Mexico generation.

<sup>56</sup> The substation proposed by Sempra Generation near milepost 30 of the SWPL would interconnect Mexican wind generation at 500 kV; a separate 230/500 kV substation farther west might be required to interconnect San Diego County wind generation delivered at the 230 kV level.

facilities instead of as many as three.<sup>57</sup> That would allow wind generation to be interconnected to SDG&E at 230 kV rather than 500 kV, as already contemplated (as an option) in the Sempra Application, thereby avoiding the need for yet another 230/500 kV substation in Mexico.

#### **D. DEIR, p. C-146: The existing SWPL is enough to meet DEIR Basic Project Objective 3**

At DEIR, p. C-146, the DEIR asserts that “the objectives of the proposed project would remain unfulfilled under the No Project/No Action Alternative,”<sup>58</sup> and implies that no new Imperial Valley generation (and only 300 Mw of eastern San Diego County wind generation connected to SWPL) could be developed in the absence of a new 500 kV line between Imperial County and San Diego.<sup>59</sup> These assertions are incorrect.

The existing SWPL line will soon be able to deliver 1900 Mw to and through the Miguel substation.<sup>60</sup> SDG&E has no contractual obligations to deliver non-renewable capacity to its system over SWPL. An existing Sempra-DWR contract under which Sempra has the right to deliver generation to the ISO at the Imperial Valley substation, will expire in 2011. Thus, by the time the Sunrise line could be in service, there will be no contractual obstacles to using the entire 1900 Mw of SWPL capacity to deliver renewables. Nor will there be any significant economic obstacles to using all, or virtually all, of SWPL to deliver renewables if there are enough renewables available to fill SWPL.<sup>61</sup>

In short, SDG&E’s web site is wrong when it claims Stirling generation can’t be delivered via SWPL (assuming Stirling gets built),<sup>62</sup> and the DEIR is wrong when it tacitly assumes the same thing. The DEIR is also wrong when it suggests that the 1900 Mw capacity of SWPL is somehow already subscribed, such that no more than 300 Mw of new wind generation can be interconnected to it “in the absence of [Sunrise]”.<sup>63</sup> As discussed above, SDG&E’s affiliate Sempra Generation has a pending Presidential Permit application to import up to 1250 Mw of renewable energy capacity from Mexico and deliver it to the ISO via SWPL, and has submitted data to DOE showing 860 Mw of new wind generation flowing onto SWPL in eastern San Diego County. The DEIR should be revised to address the post-2011 contractual and economic availability of up to 1900 Mw of transmission capacity on SWPL that could be used to deliver renewable generation.

---

<sup>57</sup> UCAN pointed out the opportunity to use a Southern Route to reduce the required number of 500 kV substations in late 2006, in identifying alternatives to be studied by the ISO.

<sup>58</sup> DEIR, p. C-146.

<sup>59</sup> DEIR, p. C-150.

<sup>60</sup> ISO, 3/11/08 response to UCAN DR8-2b.

<sup>61</sup> If more than 1900 Mw of resources attempt to schedule deliveries over SWPL, some would have to be curtailed using the ISO’s economics-based congestion management protocols. But even then, as demonstrated repeatedly in the Phase 1 record, the low marginal costs of renewable resources mean that they would almost always end up getting priority on SWPL over non-renewable resources.

<sup>62</sup> See SDG&E, [http://www.sdge.com/sunrisepowerlink/info/Myth\\_v\\_Fact.pdf](http://www.sdge.com/sunrisepowerlink/info/Myth_v_Fact.pdf).

<sup>63</sup> DEIR, p. C-150.

## E. DEIR, p. ES-20: DEIR CONTAINS AN INADEQUATE ANALYSIS OF THE NO-PROJECT ALTERNATIVE.

The DEIR identifies “reduce[ing] the cost of energy in the region” as “Basic Project Objective 2.”<sup>64</sup> However, the DEIR contains almost no analysis of the extent to which the proposed project would actually do so, nor does it contain any analysis of the extent to which alternatives (including the No Action alternative) would do so. Thus the DEIR does not contain any information which would allow the CPUC to compare alternatives based on their degree of success in meeting this basic project objective.

The UCAN and DRA briefs, along with the rest of the Phase I record, contain a vast amount of information on the relative impacts on energy costs of different alternatives. However, since the Environmentally Superior Southern Route and the Environmentally Superior Northern Route were not analyzed in Phase I, there is still nothing in the record regarding their economic net benefits.

UCAN will not attempt to re-litigate the Phase I record in this initial Phase II testimony.<sup>65</sup> However, recent CAISO documents addressing “RMR” valuation and Miguel substation are worth pointing out as they shed light on the deficiencies of the DEIR analysis – or lack thereof.

### a. “RMR” benefits”

UCAN asserts that the “RMR” benefit calculated by SDG&E was only a proxy for the real capacity cost benefit of Sunrise, which would be a reduction in local RA requirements and an offsetting increase in non-local RA benefits. UCAN then argued that SDG&E’s quantification of the “RMR” benefit was grossly overstated, with the real difference between local and non-local capacity values being under \$30 per kw-year.<sup>66</sup>

Recently, the ISO has pointed out that the California IOUs in R.05-12-013 have proposed valuing non-local capacity as worth only \$24/kw-year more than non-local capacity.<sup>67</sup> The ISO has now endorsed the same approach for valuing demand response.<sup>68</sup> But if demand response in an ISO local area is only worth \$24/kw-year more than demand response outside of that area, then logic dictates the same difference in value should apply for generation. And that would

---

<sup>64</sup> DEIR, p. ES-20.

<sup>65</sup> Preliminary SDG&E cost estimates received on March 3 in response to UCAN DR35-2, and revised by SDG&E on March 7, appear inconsistent with SDG&E’s Phase 1 cost estimates, suggesting that SDG&E **does** intend to revisit its Phase I cost estimates. To the extent that SDG&E does so in its actual testimony on March 12, UCAN will address those cost estimates in its rebuttal testimony.

<sup>66</sup> See the UCAN Opening Brief in Phase I. With a claimed 1000 Mw increase in N-1 import capacity due to Sunrise, each \$1/kw-year difference between local and non-local capacity costs would equate to a \$1 million per year “RMR” benefit.

<sup>67</sup> ISO, 11/19/07, p. 5 of filing in R.07-01-041 re valuation of demand response, available at <http://www.caiso.com/1c9b/1c9be90135310.pdf>.

<sup>68</sup> Ibid.

mean that the value of Sunrise in allowing RA requirements to be met non-locally would be only \$24 million per year, not the \$56-61 million per year (in 2006 dollars) claimed by SDG&E.<sup>69</sup> There is no mention of this inconsistency in the DEIR.

### ***b. Miguel substation***

Much of the claimed operational economic benefits of Sunrise could be achieved by increasing SDG&E's import and outlet capability at the Miguel substation.<sup>70</sup> In Phase 1, specifically, UCAN called for increasing the inlet capability at Miguel from its current 1400-1750 Mw up to 1900 Mw in all hours by changing the SPS that protects the Miguel transformers from overloads.<sup>71</sup> UCAN also called for further analysis of the outlet capability at Miguel and measures that would enable it to be increased above the current 1900 Mw.<sup>72</sup> While the DEIR acknowledges that reducing energy costs is one of the three "Basic Project Objective[s],"<sup>73</sup> neither the DEIR analysis of the proposed project or alternatives ever addresses modifications at Miguel and how they could help meet this Basic Project Objective.<sup>74</sup>

The ISO has recently admitted that its modeling of flows into Miguel tends to overstate those flows when compared to actual flows, which means that its models tend to overstate congestion at Miguel compared to actual congestion levels.<sup>75</sup>

Unlike the DEIR, the CAISO has considered the opportunities for increasing imports into Miguel. In its 2008 Transmission Plan, the ISO has endorsed modifying the SPS at Miguel to reduce congestion there, which is precisely what UCAN recommended back in June of 2007.<sup>76</sup> In the same document, the ISO indicates that its Board has approved construction of a new

---

<sup>69</sup> Ex. SD-6, Table IV-4, p. IV-28.

<sup>70</sup> See UCAN's Phase I Opening Brief.

<sup>71</sup> Ibid.

<sup>72</sup> Ibid.

<sup>73</sup> DEIR, p. ES-20.

<sup>74</sup> Instead the DEIR summarily rejects further consideration of alternatives which increase import capacity into Miguel on the grounds that they would not increase reliability (true) and would not reduce costs or allow imports of renewables (false, at least for the UCAN proposals, as shown in UCAN's Phase I testimony and briefs). See, e.g., p. C-124, rejecting an increase in SWPL capacity with no discussion of its impacts on cost or renewable deliverability. The DEIR appears not to have considered that raising Miguel import capability up to the level of outlet capability which already exists would not increase outlet congestion, and would provide opportunities to reduce costs. Nor does the DEIR appear to have considered actions SDG&E is already planning, or could undertake in the future, which would increase the outlet capacity at Miguel and thus decrease congestion. See UCAN's Phase 1 OB.

<sup>75</sup> See the ISO's January 2008 web posting at <http://www.caiso.com/1f42/1f42e565fff0.pdf>, which shows that the ISO's post-MRTU modeling, both as designed ("open loop") and as now proposed to be revised ("partially closed loop") will tend to overstate flows into Miguel by hundreds of Mw, and thus overstate congestion at Miguel. See p. 15 of 15 for a graphical example. The ISO's January 2008 analysis suggests that considerable economic value from decreased congestion could be achieved simply by better ISO modeling of the existing grid, without needing to build anything at all.

<sup>76</sup> ISO 2008 Transmission Plan, January 2006, p. 71, line 2; available at <http://www.caiso.com/1f52/1f52d6d93a3e0.pdf>. See also the ISO's 11/20/07 Short Term Plan presentation, p. 18 of 23, for more and clearer detail; available at <http://www.caiso.com/1c9b/1c9bd6101b920.pdf>.

transformer at Miguel substation, a project which will increase the outlet capacity there.<sup>77</sup> More recently yet, the ISO has clarified that its intended modification to the Miguel SPS is the same modification UCAN proposed, tripping one transformer after a forced outage of the other.<sup>78</sup> The ISO intends its modification of the Miguel SPS to increase the flow capacity and SWPL and through the Miguel transformers to 1900 Mw, on a permanent basis.<sup>79</sup> For purposes of analyzing the basic objectives of the SDG&E proposal as well as the DEIR's no-project alternative, the DEIR must give added weight to this new information.

***c. Reliability – new options and data continue to weaken the alleged need for Sunrise for reliability purposes***

Also at DEIR ES-20, the DEIR identifies “maintain[ing] reliability in the delivery of power to the San Diego region” as “Basic Project Objective 1.” However, the DEIR does not appear to quantify, anywhere, how many Mw of new transmission, generation, or demand-side resources will be needed year by year to meet the reliability objective. Because reliability is usually the driving force in determining how large an alternative needs to be (except for very lumpy alternatives like Sunrise itself), the DEIR does not contain enough information to determine if the various alternatives have been properly sized. Just because Sunrise is proposed to increase SDG&E import capacity by 1000 Mw, that does not mean that every alternative needs to be 1000 Mw in size in order to meet the reliability requirements of the SDG&E area and thus satisfy Basic Project Alternative 1.

UCAN's Opening Brief in Phase I discussed at length the importance of quantifying the baseline conditions – what will happen with or without Sunrise – in order to properly determine the annual reliability requirements of the SDG&E area. Both UCAN and DRA concluded in their Phase I briefs that the SDG&E area needs far less than 1000 Mw over the next decade to meet its reliability requirements.<sup>80</sup> The ISO, purporting to start from the CEC's 1-in-10 (90/10) load forecast, showed a reliability need of only 588 Mw a decade from now in 2018, even after retiring the existing 702 Mw South Bay 1-4 units.<sup>81</sup> Since the actual adopted CEC 1-in-10 forecast is some 190 Mw lower in 2018 than the numbers reported in the ISO brief, the ISO's

---

<sup>77</sup> Ibid., p. 61; see also p. 20 of the presentation from the SDG&E Grid Assessment Stakeholder Meeting of 11/20/07, preceding ISO approval of the new transformer, in which the new transformer is specifically described as a project that “increases Miguel outlet capability;” available at <http://www.caiso.com/1c9b/1c9bd50412490.pdf>. The ISO documents do not quantify the increase in Miguel outlet capability, but 6½ years ago in I.00-11-001, two experts who also appeared in Phase I of this proceeding testified that various transmission upgrades would increase the outlet capacity of Miguel to 2250 Mw, which suggests that the current 1900 Mw limit is by no means fixed in stone. See testimony of Linda Brown and Richard Lauckhart, 9/17/01, p. 5.

<sup>78</sup> ISO, 3/11/08 response to UCAN DR8-2a.

<sup>79</sup> ISO, 3/11/08 responses to UCAN DR8-2b (increase to 1900 Mw) and UCAN DR8-2d (increase is not temporary).

<sup>80</sup> Indeed, ISO and SDG&E numbers also show a reliability need well under 1000 Mw, as discussed in the UCAN Phase I Opening Brief.

<sup>81</sup> ISO, Phase I OB, p. 21, Table V-1, lines 1 (CEC 1 in 10 forecast), 16 (-702 Mw for South Bay retirement), and 22 (deficiency of 100 Mw in 2011, increasing to 588 Mw in 2018).

own methodology would now imply a 2018 reliability need of under 440 Mw.<sup>82</sup> Since the closing of the record in Phase I, several additional documents and developments have come to UCAN's attention which further reduce the need for Sunrise to meet SDG&E's reliability requirements over the next decade.<sup>83</sup> For the reasons below, the CPUC must reassess the DEIR assumption that 1000 Mw are required for all alternatives.

## F. DEIR, p. A-11: New supply side alternatives within the SDG&E service area - up to 282+ Mw of renewable or DG generation

The DEIR identifies one existing SDG&E contract for a 20 Mw biomass facility.<sup>84</sup> However, SDG&E has signed two additional contracts for new biomass facilities which will produce an additional 10 Mw.<sup>85</sup> Those contracts were not included in the Phase I record, and do not appear to be in the DEIR either.<sup>86</sup>

The DEIR also does not identify any future wind projects which it expects to be interconnected to the SDG&E system with or without Sunrise.<sup>87</sup> However, there is one pending wind project in the SDG&E service area that would not be dependent on SWPL for its deliveries. According to the ISO, all 201 Mw of that project's capacity will be deliverable (ISO queue project #32; reported by the ISO to be fully deliverable.<sup>88</sup> With the same effectiveness factor as the existing Kumeyaay wind project in the same area (10 Mw of reliable capacity from 48 Mw of installed capacity),<sup>89</sup> 201 Mw of installed capacity would equate to 42 Mw of RA capacity.

At DEIR, pp. C-27, C-140, C-141, the DEIR states that there is the potential for about 35 Mw of new DG over and above the 17 Mw already forecasted by SDG&E for the year 2016.<sup>90</sup> However, the 35 Mw figure appears to be much too low. What the DEIR actually shows is that a "base case" based on existing incentives and expectations will result in 15 Mw **per year** of new

---

<sup>82</sup> 588 Mw shown in the ISO OB (see previous footnote), minus 190 Mw for the lower 1-in-10 CEC forecast in 2018 which the ISO now acknowledges (see ISO, March 2008, 2009 CAISO Transmission Plan Draft Study Plan, p. 21, Table 2-4, showing 5727 Mw for SDG&E in 2018, versus the 5917 Mw shown in the ISO OB), plus 39 Mw for the rooftop solar already included in the adopted CEC forecast (<http://www.energy.ca.gov/2007publications/CEC-200-2007-015/CEC-200-2007-015-SF2.PDF>, p. 143; added in to avoid double-counting the rooftop solar on line 2 of Table V-1 of the ISO OB) equals 437 Mw.

<sup>83</sup> This issue is particularly important in light of SDG&E's claim at the 2/25/08 meeting with Commissioner Grueneich that reliability is SDG&E's **primary** reason for wanting to build Sunrise.

<sup>84</sup> DEIR, p. A-11.

<sup>85</sup> SDG&E, 12/6/07 press release, reported at <http://www.renewableenergyworld.com/rea/news/story?id=50766>.

<sup>86</sup> The DEIR does identify specific biomass project locations and sizes for potential biomass additions, but does not identify them as having contracts already, or address their likelihood of occurring with or without Sunrise.

<sup>87</sup> DEIR, pp. A-10, A-11 list existing and pending SDG&E resources. They list an existing wind project, but no future wind projects.

<sup>88</sup> ISO Deliverability Study for SCE and SDG&E, at <http://www.caiso.com/1f47/1f4791af23910.xls>.

<sup>89</sup> The existing wind project in eastern San Diego County, Kumeyaay, has an installed capacity of 48 Mw (ISO queue, 2/29/08, project 18) and provides 10 Mw of capacity for reliability purposes (Ex. SD-6, p. IV-25).

<sup>90</sup> DEIR, pp. C-27, -140, C-141.



DG capacity.<sup>91</sup> Based on the 50 percent credit for reliability used in the DEIR,<sup>92</sup> that would mean new DG additions of 7.5 Mw per year on a firm capacity basis, versus the 1 Mw per year assumed by SDG&E.<sup>93</sup> But if SDG&E is underestimating DG additions by 6.5 firm Mw per year, then the understatement from 2010 to 2016 is 39 Mw, not 35 Mw, and the understatement by 2018 would be 52 Mw.

Perhaps more importantly, the 39-52 Mw understatement of DG based on the data cited in the DEIR is an understatement in the “base case” which involves business as usual. The DEIR reports that in an “Increased Incentives Case” there would be about 200 Mw of DG by 2018, which is more than 90 Mw more than SDG&E projects (on a firm capacity basis).<sup>94</sup> And in a “High Deployment Case” DG by 2018 reaches about 170 Mw on a firm capacity basis, more than 150 Mw higher than SDG&E projects.<sup>95</sup> Thus, in terms of DG potential the DEIR underestimates the actual potential shown by its own data, by at least 115 Mw. The 35 Mw of “additional reliable DG” referenced in the DEIR is what the CEC study **expects** to occur over a period of under 6 years, and the total feasible potential in the “High Deployment” case is 2.5-3 times as much.

At DEIR, p. Ap1-306 the DEIR points out, the 150 Mw of rooftop solar assumed by SDG&E in Phase I is itself less than the combined CSI/NSHP targets for the SDG&E service area. This is wrong. SDG&E’s Phase I testimony included 150 Mw of reliability value from rooftop solar capacity by 2015,<sup>96</sup> based on an installed capacity of 300 Mw. SDG&E based its 300 Mw figure for installed capacity on a draft CPUC decision setting an SDG&E goal of 332 Mw by 2016.<sup>97</sup> A very recent RETI analysis also assumes SB1 levels will be achieved, in a report vetted by SDG&E’s Linda Brown.<sup>98</sup> The DEIR assumes that 10 percent of the technical PV potential in the SDG&E could be developed by 2016,<sup>99</sup> which would correspond to over 230 Mw of firm capacity,<sup>100</sup> some 80+ Mw more than SDG&E’s modeling includes.

The DEIR also indicates that SDG&E could install rooftop PV itself as a means of further accelerating solar development.<sup>101</sup> On February 19<sup>th</sup>, 2008 LADWP announced initiatives to do just that.<sup>102</sup> Southern California Edison followed suit with an ambitious 250MW plan the

---

<sup>91</sup> DEIR, p. C-141.

<sup>92</sup> Ibid.

<sup>93</sup> SDG&E assumes firm DG capacity grows from 11 Mw in 2010 to 17 Mw in 2016, or 1 Mw per year. DEIR, p. C-140.

<sup>94</sup> DEIR, p. C-141.

<sup>95</sup> Ibid.

<sup>96</sup> See, e.g., Ex. SD-6, p. IV-11.

<sup>97</sup> Ex. SD-6, p. VI-26.

<sup>98</sup> [http://www.energy.ca.gov/reti/ssc\\_meetings/2008-02-27\\_meeting/2008-02-17\\_BLACK+VEATCH\\_PHASE\\_1A\\_STATUS\\_REPORT.PDF](http://www.energy.ca.gov/reti/ssc_meetings/2008-02-27_meeting/2008-02-17_BLACK+VEATCH_PHASE_1A_STATUS_REPORT.PDF), pp. 9 (Linda Brown participation for SDG&E), 20 (assumes SB1 statewide goal of 3000 Mw installed is met by 2016, with half of installed capacity countable for RPS purposes)

<sup>99</sup> DEIR, p. C-70.

<sup>100</sup> DEIR, p. Ap1-306.

<sup>101</sup> DEIR, p. Ap1-306, -307.

<sup>102</sup> <http://www.latimes.com/news/local/politics/cal/la-me-green20feb20,1,1943355.story?ctrack=4&cset=true>. The LADWP program calls for an investment by the municipal utility of \$270 million in rooftop solar.

following month. SDG&E too has the ability to affirmatively influence how soon it meets, and then surpasses, the SB1 goals which has not been sufficiently considered in the DEIR.

### G. DEIR, p. C-148: DEIR UNDERSTATES DEMAND-SIDE OPTIONS

At DEIR, p. C-148, the DEIR concludes that SDG&E cannot achieve more than 200 Mw of load reduction from AMI and other Demand Response (DR) programs,<sup>103</sup> and that SDG&E has already included 595 Mw of Energy Efficiency (EE) programs (by 2015) in its “baseline peak electricity forecast.”<sup>104</sup> The DEIR is inaccurate; both the Phase I record and subsequent documents suggest that the DEIR substantially underestimates EE and DR potential.

Both SDG&E and the ISO concluded in Phase I that SDG&E can only reduce its future loads by 59 Mw using dispatchable demand response (DR), while UCAN argued that a minimum of 63 Mw of future dispatchable DR should be counted from existing contracts.<sup>105</sup> UCAN pointed out that SDG&E’s own LTPP testimony called for 139 Mw of dispatchable demand response.<sup>106</sup> Now the Commission’s LTPP decision has endorsed that number, accepting that SDG&E will have 139 Mw of dispatchable demand response in each year from 2008-16, inclusive.<sup>107</sup>

The DEIR, in contrast to the LTPP decision, refers only to AMI as a form of demand response, and does not quantify any expected future capacity value for dispatchable demand response.<sup>108</sup> UCAN assumes the DEIR authors were not disputing the 59 Mw of dispatchable demand response included in the SDG&E and ISO Phase I testimony. Even so, the LTPP decision shows that the Commission expects some 80 Mw of future dispatchable demand response over and above the 59 Mw counted to date by the ISO and SDG&E.<sup>109</sup>

Also, AMI, or price-responsive DR, is SDG&E’s biggest single load-reduction program. In D-07-04-043, the Commission approved over half a billion dollars of SDG&E expenditures to implement AMI. The DEIR asserts that AMI will reduce SDG&E’s peak demand by about 200 Mw, but no more.<sup>110</sup> However, in D-07-12-052 the Commission quantified the expected price-responsive demand reductions for SDG&E (i.e., AMI impacts) as 233 Mw in 2010, increasing an average of 2 Mw per year to 245 Mw in 2016.<sup>111</sup> By 2018, the number would up to about 249 Mw. Thus the 200 Mw figure in the DEIR is some 49 Mw too low by 2018. In addition, as

<sup>103</sup> DEIR, p. C-148.

<sup>104</sup> DEIR, p. C-147.

<sup>105</sup> See UCAN Opening Brief in Phase I. Exhs. U-41 and U-42 provide evidence for potential DR in excess of the 139 Mw figure in SDG&E’s LTPP filing and in D.07-12-052.

<sup>106</sup> Ibid.

<sup>107</sup> Line 8 of Table SDGE-1 of D.07-12-052, available at [http://docs.cpuc.ca.gov/PUBLISHED/FINAL\\_DECISION/76979-01.htm#P842\\_189748](http://docs.cpuc.ca.gov/PUBLISHED/FINAL_DECISION/76979-01.htm#P842_189748).

<sup>108</sup> DEIR, pp. C-147, C-148.

<sup>109</sup> The UCAN Phase I Opening Brief counted 63 Mw of dispatchable demand response, so the 139 Mw figure in D.07-12-052 is also 76 Mw higher than UCAN’s Phase I number.

<sup>110</sup> DEIR, p. C-148.

<sup>111</sup> Line 7 of Table SDGE-1 of D.07-12-052, available at [http://docs.cpuc.ca.gov/PUBLISHED/FINAL\\_DECISION/76979-01.htm#P842\\_189748](http://docs.cpuc.ca.gov/PUBLISHED/FINAL_DECISION/76979-01.htm#P842_189748). Note that there is an apparent typo in the table value for 2015, which is shown as 232 Mw even though the prior year is 240 Mw and the following year is 245 Mw. UCAN believes the intended number for 2015 was 242 Mw, not 232 Mw.

demonstrated in the Phase I record, SDG&E has testified in its General Rate Case proceeding that its proposed incentive rates for AMI would produce even greater demand response than the numbers shown in the LTPP decision, up to a little over 300 Mw.<sup>112</sup> Thus the DEIR may be underestimating AMI impacts by a full 100 Mw.

The DEIR asserts that energy efficiency (EE) savings of 595 Mw by 2015 have been built into SDG&E's demand forecast, and that no further energy efficiency savings "is foreseeable under the No Project/No Action Alternative."<sup>113</sup> The DEIR also concludes that "the [EE] savings goals established by the CEC are presently somewhat higher than the maximum achievable savings potential expected to be achievable in the SDG&E service territory."<sup>114</sup> However, as discussed at length in the Phase I record, it is not true that the CEC's most recent demand forecast for SDG&E incorporates 595 Mw of EE savings, and it is not true that 595 Mw of EE savings exceeds the technical potential of the SDG&E service territory.<sup>115</sup>

Since the close of the record in Phase I, D.07-12-052 has concluded that the CEC's 2007 IEPR forecast<sup>116</sup> "embeds ... committed EE and approximately 100% of uncommitted EE."<sup>117</sup> However, as already discussed in UCAN's Phase I opening brief, the actual IEPR forecast strongly suggests that the post-2009 EE embedded in the CEC demand forecast is less than 100 percent of the CPUC's EE goals. The difference amounts to some 144 Mw by 2018.<sup>118</sup>

The 144 Mw understatement of future energy efficiency is the difference between what is in the CEC demand forecast and what would be there using the CPUC's adopted goals for future energy efficiency. But the CEC has adopted even larger goals for future energy efficiency. Since the close of the Phase I record, the CEC has formally adopted the 2007 IEPR, including a recommendation that "energy efficiency targets for 2016 equal to 100 percent of economic potential."<sup>119</sup> As shown in the final staff forecast of SDG&E energy efficiency and demand response potential,<sup>120</sup> the technical potential by 2016 is some 418 Mw more than the cost-effective level of demand reduction.<sup>121</sup> Just achieving the cost-effective level of demand

---

<sup>112</sup> See UCAN Phase I Opening Brief and Ex. U-66 (testimony of SDG&E witness Willoughby).

<sup>113</sup> DEIR, p. C-147.

<sup>114</sup> *Ibid.*, citing a 2004 CPUC decision.

<sup>115</sup> See UCAN Phase I Brief, and Exs. U-67 and U-68 regarding EE

<sup>116</sup> This is the same demand forecast introduced in Phase I as updated Ex. U-47.

<sup>117</sup> Footnote 1 to Table SDGE-1 of D.07-12-052, available at [http://docs.cpuc.ca.gov/PUBLISHED/FINAL\\_DECISION/76979-01.htm#P842\\_189748](http://docs.cpuc.ca.gov/PUBLISHED/FINAL_DECISION/76979-01.htm#P842_189748).

<sup>118</sup> See UCAN Phase I Opening Brief. See also <http://www.energy.ca.gov/2007publications/CEC-200-2007-015/CEC-200-2007-015-SF2.PDF>, p. 138, Table 24, which is the final version of the document included, in an earlier version, as updated Ex. U-47 in the Phase I record. Table 24 shows incremental energy conservation embedded in the adopted CEC IEPR forecast is 158 Mw from 2008 to 2013, and another 154 Mw from 2013 to 2018. In contrast, SDG&E claims that its modeling has accounted for 223 Mw of uncommitted energy efficiency from 2008 to 2013, and another 233 Mw from 2013 to 2018. See SDG&E, Ex. SD-6, p. VI-16, Table VI-1. Thus SDG&E is claiming credit for 144 Mw more energy efficiency savings than are actually contained in the adopted CEC forecast.

<sup>119</sup> CEC, IEPR, 12/5, 07, Executive Summary, available at [http://www.energy.ca.gov/2007\\_energy/policy/index.html](http://www.energy.ca.gov/2007_energy/policy/index.html).

<sup>120</sup> CEC, "Achieving All Cost-Effective Conservation For California, 12/07, publication CEC-200-2007-019-SF, available at <http://www.energy.ca.gov/2007publications/CEC-200-2007-019/CEC-200-2007-019-SF.PDF>. A draft version of this report was previously introduced in Phase I as Ex. U-67.

<sup>121</sup> Updated Ex. U-67: CEC, "Achieving All Cost-Effective Conservation For California, 12/07, publication CEC-200-2007-019-SF, p. B-80, available at <http://www.energy.ca.gov/2007publications/CEC-200-2007-019/CEC-200-2007-019->

reduction (and not the additional 418 Mw of technical potential), would result in a 1-in-2 SDG&E peak load of 4697 Mw in 2016.<sup>122</sup> That would be only 190 Mw above the CEC demand forecast for 2007.<sup>123</sup> In other words, the CEC believes SDG&E has the ability to hold its net load growth to 190 Mw from 2007-2016,<sup>124</sup> and recommends that doing so should be state policy.

The CEC's 1-in-10 forecast is 8.8 percent higher than its 1-in-2 load forecast.<sup>125</sup> Thus the 4697 Mw of CEC-forecasted peak load with full economic energy efficiency achieved by 2016 would translate into a peak load of about 5110 Mw with 1-in-10 temperature conditions.<sup>126</sup> By comparison, SDG&E has assumed a 2016 peak demand of 5330 Mw.<sup>127</sup> Thus SDG&E has overstated its 2016 peak demand by some 220 Mw by understating demand reduction that would occur if it complies with the CEC's IEPR policy. And the DEIR is erroneous in not incorporating this most recent data into its assessment.

One example of the sort of new energy efficiency measures that are not included in the CEC baseline forecast, but are highly likely to occur in the 2008-18 period, are the Building Standard revisions which the CEC proposes to implement this year. Since the close of the Phase I record, the CEC has estimated that the 2008 Building Standard Revisions will result in a reduction in statewide peak demand growth of 131.8 Mw per year.<sup>128</sup> Since SDG&E represents about 7.25 percent of statewide peak load,<sup>129</sup> that would correspond to about 102 Mw for SDG&E over the next decade.<sup>130</sup> The DEIR appears to have failed to incorporate this additional peak demand reduction into its assessment.

[SF.PDF](#). The 418 Mw is the difference between remaining technical and economic potential in 2016 (804 vs 388 Mw), showing that remaining economic potential is less than half of remaining technical potential. The 418 Mw figure also appears as the difference between the numbers in the bottom right-hand corner of the table for 2016 peak demand with all technical potential achieved (4281 Mw) and with all cost-effective potential achieved (4697 Mw).

<sup>122</sup> Ibid.

<sup>123</sup> Ibid. The 2007 CEC forecast is shown as 4507 Mw on the line entitled "Baseline Demand Forecast – CEC 2007." 4507 Mw is 190 Mw less than 4697 Mw shown for 2016 on the line entitled "Demand (Mw) After All Cost-Effective."

<sup>124</sup> If one adds 8.8 percent to account for the difference between 1-in-2 and 1-in-10 forecasts, the load growth in the 1-in-10 forecast from 2007 to 2016 would still be only 208 Mw.

<sup>125</sup> Revised Ex. U-47; UCAN OB. See also <http://www.energy.ca.gov/2007publications/CEC-200-2007-015/CEC-200-2007-015-SF2.PDF>, p. 144. This is the final version of the document whose earlier drafts are in the record as Ex. U-47 and revised Ex. U-47.

<sup>126</sup>  $4697 * 1.088 = 5110$ .

<sup>127</sup> Ex. SD-26, Table H-1, "90/10 After CSI and Demand Response" line.

<sup>128</sup> CEC, 11/7/07, Impact Analysis, 2008 Update to the California Energy Efficiency Standards for Residential and Non-residential Buildings, p. 5; available online at

[http://www.energy.ca.gov/title24/2008standards/rulemaking/documents/2007-11-07\\_IMPACT\\_ANALYSIS.PDF](http://www.energy.ca.gov/title24/2008standards/rulemaking/documents/2007-11-07_IMPACT_ANALYSIS.PDF).

<sup>129</sup> See <http://www.energy.ca.gov/2007publications/CEC-200-2007-015/CEC-200-2007-015-SF2.PDF>, p. 5, Table ES-3, which shows SDG&E loads as 7.25% of state loads in 2008 (4568 Mw out of 62945 Mw) and 7.77% of statewide load growth in 2008-18 (695 Mw out of 8943 Mw). This is the final version of the document whose earlier drafts are in the Phase I record as Ex. U-47 and revised Ex. U-47.

<sup>130</sup>  $131.8 \text{ Mw/year} \times 10 \text{ years} \times .0725/\text{San Diego share} \times 1.07 \text{ for associated T\&D loss reduction} = 102 \text{ Mw}$ .

## H. DEIR, p. C-151: Transmission alternatives provide reliability

At DEIR, p. Ap1-264, the DEIR confirms that upgrading Path 44 is “technically, legally and regulatorily viable.” SDG&E has confirmed that the environmentally preferred Northern and Southern routes would each provide 3500 Mw of N-1/G-1 import capability, the same as Sunrise.<sup>131</sup> UCAN’s has presented evidence that the Path 44 upgrade option is both a viable and a cost-effective option. This option would increase SDG&E import capacity by 350 Mw to 2850 Mw,<sup>132</sup> which may well be all that is needed to meet SDG&E’s reliability requirements for many years to come, particularly if the CEC’s IEPR goals for energy efficiency can be met.<sup>133</sup> The DEIR does not appear to incorporate this fact into its assessment.<sup>134</sup>

## III. DEIR, pp. E-66, E-67: The DEIR understates the robustness of the No Action Alternative

The DEIR concludes that the No Project Alternative would be environmentally preferable to any of the Northern or Southern Routes, including the proposed project.<sup>135</sup> However, because the DEIR contains little in the way of analysis about the No Action alternative, UCAN is concerned that the DEIR may have overlooked a very robust alternative. The discussion below addresses various aspects of a No Action Alternative which are either discussed only briefly in the DEIR, or are incorrectly underestimated or rejected by the DEIR.

### A. DEIR understates the reliability of the No Action Alternative

The DEIR’s first “Basic Project Objective” is to “maintain reliability in the delivery of power to the San Diego region.”<sup>136</sup> But the DEIR does not appear to quantify just how much

---

<sup>131</sup> SDG&E, 2/15/08 response to DRA data request 17-1a, available at <http://www.sdge.com/sunrisepowerlink/discovery.shtml>. UCAN notes that a very slightly different SDG&E website for data responses, <http://www.sdge.com/sunrisepowerlink/discovery.html>, does not include this or other 2008 data responses.

<sup>132</sup> UCAN Phase I Opening Brief. Note that the DEIR incorrectly describes the Path 44 Upgrade proposal as intended to increase SDG&E’s import limit by 300 Mw, not 350 Mw. DEIR, p. Ap1-263.

<sup>133</sup> As discussed above, the IEPR calls for achieving 100 percent of cost-effective EE and DR by 2016, which in SDG&E’s case would hold load growth in 2007-2016 down to only 208 Mw (or about 23 Mw per year). With load growth slowed that much, a 350 Mw increase in import capability would match the load growth over a 15 year period.

<sup>134</sup> Besides ignoring the degree to which a Path 44 upgrading would meet Basic Projective Objective 1, the DEIR also misdescribes the Path 44 upgrading option itself. The DEIR mischaracterizes the requirements for a Path 44 upgrade as including a Viejo-Chino loop-in to Talega, having unknown SCE-area upgrade requirements in addition to Barre-Ellis, increasing SDG&E’s import capability by only 300 Mw, and requiring modifications at the Del Amo substation in Los Angeles County (DEIR, p. C-151). Each of these assertions is wrong, as already shown in UCAN’s Phase 1 testimony and briefs.

<sup>135</sup> DEIR, pp. E-66, E-67.

<sup>136</sup> DEIR, p. ES-20.

capacity would be required to do so.<sup>137</sup> The issue of required new capacity was a major issue in Phase I, with both UCAN and DRA arguing that SDG&E does not need **any** new resources for years to come, beyond those already in the procurement pipeline (Otay Mesa, peakers approved by the CPUC in 2007, approved in-basin renewables).<sup>138</sup> But the DEIR appears to simply assume that, because Sunrise would (allegedly) increase firm import capacity to SDG&E by 1000 Mw, each alternative to Sunrise must do so as well.<sup>139</sup> This assumption is fundamentally incorrect.

## **B. DEIR undervalues the components of its own No Project Alternative**

### **1. DEIR, pp. Ap1-263 and -264: Path 44**

The DEIR concludes, correctly,<sup>140</sup> that upgrading Path 44 will require upgrading the Barre-Ellis 230 KV line.<sup>141</sup> The DEIR then indicates that upgrading Path 44 is one likely component of a No Action Alternative, but indicates there are “no sponsors” for doing so.<sup>142</sup> However, the DEIR is wrong. Unbeknownst to the authors of the DEIR, SCE has proposed to the ISO to upgrade Barre-Ellis, the key to increasing the Path 44 import capacity to SDG&E, and the ISO knows it.<sup>143</sup> A specific method is currently under development to mitigate Barre-Ellis overloads, which will involve either increasing the capacity of the Barre-Ellis line or taking other measures to decrease flows over the Barre-Ellis line. The ISO and SCE intend to resolve the Barre-Ellis overload issue this year (2008).<sup>144</sup>

Similarly, the ISO has recently identified the Felicita Tap-Bernardo 69 kV line as a limiting facility which is creating a local reliability need of 75 Mw (2010) to 86 Mw (2012) within the SDG&E area.<sup>145</sup> Thus, SDG&E now has a reliability incentive to upgrade the Felicita Tap-Bernardo 69 kV line whether or not Sunrise is built. Because SDG&E has identified this line as a

<sup>137</sup> See discussion above.

<sup>138</sup> See Phase I briefs of UCAN and DRA.

<sup>139</sup> See, for example, pp. C-143 and C-144, where an all solar alternative is described as a 1020 Mw alternative, with no discussion of whether a smaller sized project would also meet Basic Project Objective 1.

<sup>140</sup> But see UCAN’s 6/1/07 testimony regarding Path 44 and the evidence that upgrading Barre-Ellis might **not** be required in order to upgrade Path 44.

<sup>141</sup> DEIR, pp. Ap1-263 and -264. UCAN notes in passing that the description of the Path 44 upgrade option on pp. Ap1-263 and -264 appears to be in error (but not fatally so) in several respects, as can be seen from a comparison of the DEIR to UCAN’s Phase I Opening Brief and Phase I testimony regarding Path 44.

<sup>142</sup> DEIR, p. C-147.

<sup>143</sup> See the ISO’s 2008 Transmission Plan, January 2008, at p. 63; available at <http://www.caiso.com/1f52/1f52d6d93a3e0.pdf>. The proposed on-line date for the Barre-Ellis upgrade is prior to the summer of 2012.

<sup>144</sup> ISO, 3/11/08 response to UCAN DR8-1.

<sup>145</sup> CAISO, 12/28/07, 2010-2012 Local Capacity Technical Analysis, at p. 75 of 77 at <http://www.caiso.com/1cc2/1cc2dab86fd50.pdf>.

requirement for a Path 44 upgrade, the ISO's identification of it as a local reliability constraint increases the chance that SDG&E will upgrade the line, thereby making the Path 44 upgrade both more likely to occur and less costly.<sup>146</sup> The DEIR also fails to mention either SDG&E's or UCAN's analysis of the intra-SDG&E upgrades required for the Path 44 upgrade, let alone the ISO's identification of some of those same upgrades as desirable for other reasons.

Finally, the October 2007 fires damaged some of the same 69 kV facilities that SDG&E says would need to be rebuilt to accommodate a Path 44 upgrading.<sup>147</sup> To the extent that SDG&E has, for example, replaced burnt wood poles with new steel poles, it may already have incurred some of the costs that it claims would be needed for a Path 44 upgrading, and thus reduced the incremental cost of such an upgrading. The DEIR has no discussion of Path 44 upgrading costs and whether they are already being covered by transmission upgrades and rebuilds undertaken for other purposes (e.g., fire recovery or meeting normal load growth).

## **2. DEIR, p. C-147: Miguel substation**

As discussed above, UCAN's proposed version of a No Action alternative includes modifications at Miguel which would help the No Action Alternative meet DEIR Basic Projective Objectives 1 (reduced cost) and 3 (delivery of renewables). The DEIR neither acknowledges the role that Miguel modifications could play as part of a No Action Alternative,<sup>148</sup> nor acknowledges the recent actions that SDG&E and the ISO have been taking to increase inlet and outlet capacity at Miguel. The DEIR also fails to incorporate the analysis contained in the Sempra Generation Presidential Permit Application, also discussed above, showing projected flows into and out of Miguel in excess of 2000 Mw in 2009, well above the current 1750 Mw inlet limit and 1900 Mw outlet limit.<sup>149</sup>

---

<sup>146</sup> The same page of the 12/28/07 ISO analysis cited in the previous footnote also indicates that another local reliability sub-area within the SDG&E system will require the Kearny gas turbines to stay in service to meet the sub-area reliability requirements. *Ibid.*, p. 75 of 77. If the Kearny GTs are required for local reliability, then the chance they will be retired is much reduced, contradicting SDG&E's Phase I testimony (Ex. SD-15, Thomas testimony) and decreasing the size of the No Action Alternative required to meet DEIR Basic Project Objective 1. However, the DEIR has no discussion of the prospects of the Kearny units remaining in service.

<sup>147</sup> See Phase I, Ex. U-29 (Yari) re specific transmission line rebuilds SDG&E claims would be needed for a Path 44 upgrading; see SDG&E response to ED DR set 22 for tables listing the facilities damaged in the October 2007 fires.

<sup>148</sup> See DEIR, p. C-147, where the summary of the potential components of the No Project/No Action Alternative has no mention of Miguel.

<sup>149</sup> Sempra Presidential Permit Application, 12/18/07, Exhibit E. Since the Application was not filed until two weeks before the DEIR publication date, and was not noticed in the Federal Register until after the DEIR is published, UCAN is not suggesting that the DEIR's failure to reflect the data in the Application is any reflection on the authors of the DEIR.

### 3. DEIR, pp. C-27, C-28, C-142, C-143, C-147, C-148: EE and DR

As discussed in greater depth above, the DEIR dramatically understates energy efficiency and demand response options,<sup>150</sup> seemingly in ignorance of the UCAN Phase I analysis, the CEC's IEPR (and supporting documents) and the CEC's 2008 Building Standard revisions analysis.<sup>151</sup> These energy efficiency and demand response measures contribute directly to meeting Basic Project Objectives 1 (reliability) and 2 (cost reduction), and by reducing the need to import capacity may also free up transmission line space for use by renewables, thereby contributing to Basic Project Objective 3.

They are also at the top of the CEC/CPUC Energy Action Plan loading order. Thus, the DEIR should be revised to include quantify the incremental potential for increased EE and DR above the levels included in SDG&E's with-Sunrise case, and that incremental potential should then be included as needed and appropriate in a revised No Action Alternative. In particular, the DEIR should be revised to take account of the post-2009 energy efficiency (EE), dispatchable demand response (DR), and price-related demand response (AMI) which were discussed and described in UCAN's Phase I testimony and brief, and above in this testimony.

### 4. DEIR, p. AP1-306: In-basin solar

The DEIR assumes that 10 percent of the technical PV potential could be developed by 2016,<sup>152</sup> which would correspond to over 230 Mw of firm capacity,<sup>153</sup> some 80+ Mw more than SDG&E's modeling includes. In contrast, SDG&E assumes 150 Mw of firm solar rooftop capacity by 2010, based on 300 Mw of nameplate capacity. That is less than the combined CSI/NSHP targets for the SDG&E service area.<sup>154</sup> The final EIR should continue to reflect the potential for up to 230 Mw of rooftop solar by 2016, and more thereafter, as part of a No Action alternative.

The DEIR also indicates that SDG&E could install rooftop PV itself as a means of further accelerating solar development, but suggests there may be legal obstacles to doing so.<sup>155</sup> Recent initiatives by LADWP to implement SB1 with utility-owned rooftop solar<sup>156</sup> are further evidence that the SB1 targets can be achieved, and suggest that the DEIR may be overstating the legal barriers to utility-installed rooftop solar. The DEIR should be revised to examine the LADWP program for its implications regarding SDG&E's solar options.

---

<sup>150</sup> DEIR, pp. C-27, C-28, C-142, C-143, C-147, C-148. Note that p. C-147 omits EE and DR even as **components** of a No Action alternative.

<sup>151</sup> See the discussion above.

<sup>152</sup> DEIR, p. C-70.

<sup>153</sup> DEIR, p. AP1-306.

<sup>154</sup> DEIR, p. Ap1-306.

<sup>155</sup> DEIR, pp. Ap1-306, -307.

<sup>156</sup> See discussion and footnote above.



### 5. DEIR, pp. C-27, -140, C-141: Distributed generation

The DEIR states that there is the potential for about 35 Mw of new DG over and above the 17 Mw already forecasted by SDG&E for the year 2016.<sup>157</sup> However, the 35 Mw figure appears to be much too low. What the DEIR actually shows is that a “base case” based on existing incentives and expectations will result in 15 Mw per year of new DG capacity.<sup>158</sup> Based on the 50 percent credit for reliability used in the DEIR,<sup>159</sup> 15 Mw per year of nameplate capacity would mean new DG additions of 7.5 Mw per year on a firm capacity basis, versus the 1 Mw per year assumed by SDG&E.<sup>160</sup> But if SDG&E is underestimating DG additions by 6.5 firm Mw per year, then the understatement from 2010 to 2016 is 39 Mw, not 35 Mw, and the understatement by 2018 would be 52 Mw.

As importantly, the 39-52 Mw understatement of DG based on the data cited in the DEIR is an understatement in the “base case” which involves business as usual. As discussed above, the DEIR reports that in an “Increased Incentives Case” there would be about 200 Mw of DG by 2018, which is more than 90 Mw more than SDG&E projects (on a firm capacity basis).<sup>161</sup> And in a “High Deployment Case” DG by 2018 reaches about 170 Mw on a firm capacity basis, more than 150 Mw higher than SDG&E projects.<sup>162</sup> Thus, in terms of DG potential the DEIR underestimates the actual potential shown by its own data, by at least 115 Mw. The 35 Mw of “additional reliable DG” referenced in the DEIR is what the CEC study **expects** to occur over a period of under 6 years, and the total feasible potential in the “High Deployment” case is 2.5-3 times as much. The DEIR should be revised to correctly describe the underlying study.

### 6. In-basin generation options

#### *a. DEIR, p. C-147: New in-basin renewables*

At DEIR, p. C-147, the DEIR indicates that there is no known sponsor for new in-basin renewable generation projects.<sup>163</sup> However, there are two new in-basin projects not mentioned in the DEIR which not only have a project sponsor, they have contracts with SDG&E for their output.<sup>164</sup> In addition, the DEIR itself describes several specific biomass projects and their sponsors.<sup>165</sup> Finally, ISO queue project #32 is a 201 Mw wind project with a specific sponsor, albeit one whose name is confidential.<sup>166</sup>

---

<sup>157</sup> DEIR, pp. C-27, -140, C-141.

<sup>158</sup> DEIR, p. C-141.

<sup>159</sup> Ibid.

<sup>160</sup> SDG&E assumes firm DG capacity grows from 11 Mw in 2010 to 17 Mw in 2016, or 1 Mw per year. DEIR, p. C-140.

<sup>161</sup> DEIR, p. C-141.

<sup>162</sup> Ibid.

<sup>163</sup> DEIR, p. C-147.

<sup>164</sup> See discussion above of new biomass contracts with SDG&E announced by SDG&E in December 2007.

<sup>165</sup> Envirepel and the City of San Diego; see DEIR, pp. C-73 and C-74.

<sup>166</sup> See project #32 in the 2/29/08 ISO queue, at <http://www.caiso.com/14e9/14e9ddda1ebf0.pdf>.

***b. DEIR, p. C-76: New 600+ Mw combined cycle project near Escondido, and other proposed new in-basin projects***

At DEIR, p. C-76, the DEIR lists various in-basin conventional generation projects as potential components of a No Action Alternative, but rejects other projects as potential alternatives because “they may not be feasible in the 2010 time frame.”<sup>167</sup> Feasibility by 2010 should not be a precondition for inclusion in the No Action Alternative.<sup>168</sup> Even if some new resources are needed by 2010, which both UCAN and DRA strenuously deny,<sup>169</sup> no party claims that 1000 Mw of new resources are needed even by 2020 for SDG&E reliability purposes. Thus a No Action alternative can (and undoubtedly would) consist of a mix of resources from both the demand and supply side (as well as new transmission such as the Path 44 upgrade), with those resources phased in over time.

Without a 2010 on-line date as a constraint for inclusion in the DEIR, a variety of additional in-basin generation opportunities exist. For example, the CAISO interconnection queue currently includes the following 5 non-renewable projects totaling 1140 Mw within the SDG&E service area (besides those already mentioned in the DEIR):<sup>170</sup>

- Queue project #90, a 93 Mw CT
- Queue project #150, a 43 Mw CT
- Queue project #190, a 330 Mw CT project at Otay Mesa
- Queue project #226, a new 620 Mw combined cycle project at Escondido
- Queue project #274, a 54 Mw combined cycle project at Palomar<sup>171</sup>

---

<sup>167</sup> DEIR, p. C-76.

<sup>168</sup> Indeed, UCAN doubts that the **proposed** project is feasible by 2010, particularly in light of the 2/25/08 statement to Commissioner Grueneich by counsel for the California State Department of Parks and Recreation that there is still an eight months to one-year permitting process with the State Parks and Recreation Commission to be gone through. SDG&E’s own analysis of mitigation costs for its proposed Sunrise route is based on a 2011 on-line date (SDG&E, 3/7 attachment to SDG&E’s 3/6/08 reply to UCAN DR35-12), and presumably doesn’t take into account the time required for an ABDSP General Plan amendment.

<sup>169</sup> See UCAN and DRA Opening Briefs in Phase I.

<sup>170</sup> CAISO, 2/29/08 interconnection queue, at <http://www.caiso.com/14e9/14e9ddda1ebf0.pdf>.

<sup>171</sup> This project is listed with a 2008 on-line date. UCAN suspects it is the capacity increase at the existing Palomar combined cycle plant previously discussed in UCAN’s Phase I direct testimony and Opening Brief. Whether it is or not, it is not mentioned in the DEIR, but should be. It is either part of the base case (projects that will be built no matter what happens in this proceeding), in which case it reduces the needed size of the No Action Alternative, or else it is a potential component of the No Action Alternative.

#### **IV. DEIR alternative 4 -- UCAN proposes a modification to this alternative which is on cost grounds, equal with regard to reliability, and superior environmentally**

The DEIR presents a specific Southern Route (ESSRA) identified as DEIR Alternative 4. UCAN has looked at the alternative routes described in the DEIR and believes that it hasn't considered a variation on this alternative which would meet SDG&E's likely objections to the Environmentally Superior Southern Route while having fewer environmental impacts than the proposed project, lower cost than the proposed project, and be feasible to construct. The "UCAN route" is quite a few miles shorter than the ESSRA (DEIR alternative 4), and thus should be quite a bit cheaper.<sup>172</sup>

UCAN's specific Southern Route alternative is described below and should be used as the benchmark against which SDG&E's Preferred Route is measured. UCAN offers this alternative largely to demonstrate in very graphic terms that SDG&E's selection of its proposed route was not a considered and thoughtful selection.

UCAN also believes that the DEIR should give greater weight to the No-Option alternative contained in the DEIR; an alternative that is largely consistent with UCAN's Phase I alternative. It remains the most environmental superior and cost-effective option presented to the Commission in either phase of this proceeding.

##### **A. Route selection criteria**

###### **1. Avoid southernmost part of modified D option because of potential reliability argument – too close (< 4 miles) to SWPL in area burned in 10/07 fires**

In response to the DEIR's ESSRA, UCAN expects SDG&E to argue that the Modified D route is unacceptable because it would pass too close to the SWPL route and pose a risk of an N-2 contingency from fire. Building upon the DEIR's analysis, UCAN has identified a route whose projected burn zone after a fire near the route would not include the SWPL ROW and therefore not trigger SDG&E's objections.

###### **2. Avoid I-8 route through Buckman Springs area**

*a. For the same reasons the "Environmentally preferred Southern Route" does – avoids competing uses and the "scenic Cottonwood Valley along I-8."*

---

<sup>172</sup> UCAN, 3/12 opening Phase 2 testimony.

The DEIR endorses the Modified Route D route in part because it avoids the “scenic Cottonwood Valley” along I-8 as well as competing recreational uses such as hang gliding in the Buckman Springs area. UCAN identified a route which would also avoid the Buckman Springs area.

***b. To avoid crossing Indian lands***

At the 2/25/08 all-party meeting with Commissioner Grueneich, SDG&E indicated that it thought the I-8 route would be infeasible because it passes through Indian lands, and the Campo Indians have recently expressed their opposition to a line across their land. UCAN identified a route which did not pass through any Indian lands and thus would not be subject to veto by a third party.<sup>173</sup>

The DEIR says that the I-8 route right-of-way (RoW) , which would also be used by the UCAN route, would cross .02 miles of the Viejas reservation, or about 100 feet.<sup>174</sup> SDG&E has asserted in CPUC testimony that the I-8 route RoW would cover 0.26 acre of land owned by the Viejas Tribe, and concludes that the I-8 route is therefore “infeasible.”<sup>175</sup> However, Attachment 10-8 in its testimony shows that moving one tower 125’ would get the entire I-8 RoW out of the Viejas reservation, as already pointed out in UCAN’s opening Phase 2 testimony. SDG&E has now conceded that it believes the I-8 route can be relocated to avoid the Viejas reservation, at a “negligible” cost.<sup>176</sup> Thus the UCAN route would still be feasible.

***3. Minimize underground mileage – to reduce costs***

As discussed above, SDG&E estimated in Phase I that underground 230 kV lines would cost about \$20 million per circuit mile. In addition, the DEIR indicates that underground 500 kV lines may not be feasible at all, at least not for any sustained distance.<sup>177</sup> UCAN looked for a route in which any underground sections were as far west as possible (to allow more miles of 500 kV line and fewer miles of 230 kV line<sup>178</sup> and more siting options for the 500/230 kV substation) and as short as possible (to minimize costs).

---

<sup>173</sup> SDG&E asserts in its 3/7/08 response to UCAN DR26-1 that the “UCAN route” would cross “a corner of the Viejas Indian Reservation and includes an access road into the Reservation. See DEIR Fig. Ap. 11C-52. The project could not proceed on this route without the Viejas Tribe approval.” However, UCAN’s review of the cited DEIR figure does not show the route crossing any reservation lands. The figure does show access roads on reservation lands, but does not discuss whether alternative access road locations are possible, given that the transmission line itself, and all its tower pads, lie outside the reservation.

<sup>174</sup> DEIR, p. E.1.7.1.

<sup>175</sup> SDG&E, 3/12, p. 10.6.

<sup>176</sup> SDG&E, 3/26 response to UCAN DR38-3.

<sup>177</sup> The DEIR does describe the LEAPS transmission alternative as having a 1.7 mile section of underground 500 kV line.

<sup>178</sup> According to SDG&E, “ The high level design goal for the Sunrise Powerlink project is to bring a single 500 kV line as close to the SDG&E load center as is reasonably practicable, then to use 230 kV lines to distribute the power to major 230 kV load-serving substations within the San Diego load center.” SDG&E, 11/17/06, p. 8 of 17, response to ED DR set 1, DR ALT-20. UCAN sought (and found – see below) a Southern Route which would better meet this “high level design goal” than the proposed Central substation location.

#### ***4. Take account of future expandability issues***

UCAN looked for a route which would allow future interconnections to SDG&E 230 kV substations other than Sycamore Canyon in as low cost and non-disruptive a manner as possible, consistent with SDG&E's "high level design goal" for the project.<sup>179</sup>

In testimony filed at the CPUC, SDG&E says the DEIR fails to treat expandability (to interconnect with SCE) as a project objective<sup>180</sup>. The interesting part of this assertion is that if the DEIR did analyze the SCE interconnection, the DEIR would have to address SDG&E's claim (p. 2.37) that crossing Indian lands is a fatal flaw, since the DEIR's route from SDG&E to SCE does so. And the DEIR would also have to address the fact that, according to Attachment 6-6, the Cleveland National Forest opposes mere consideration of the Full Loop option.

The Forest's position dooms the consideration of a Full Loop as infeasible and thus not a basis for choosing one route over another. SDG&E's position (that crossing Indian lands is infeasible) dooms the particular Full Loop route described in the DEIR. Thus, the DEIR did not err by failing to make expandability a necessary condition of all project alternatives – as asserted by SDG&E – for it would have had to find that expandability made the entirety of Sunrise infeasible. If anything, the DEIR erred in not explicitly precluding expandability on the basis that it would inevitably cross Indian-owned lands.

#### ***5. Avoids Cultural or Archeologically-Sensitive Habitat***

SDG&E maintains that a "prehistoric Indian village" that would be affected by the I-8 route, and cites DEIR p. E.1.7-4 as the basis for its testimony. That page of the DEIR refers to site CA-SDI-6706 as both a "prehistoric village site" and a "prehistoric archaeological site." Elsewhere, the DEIR identifies site CA-SDI-6706 as being "along the Interstate 8 Alternative in Alpine Boulevard."<sup>181</sup> The DEIR also confirms that the Star Valley Option in the ESSRA would avoid site CA-SDI-6706.<sup>182</sup> This means that the portion of site CA-SDI-6706 subject to being affected by a new transmission line must be under the easternmost portion of Alpine Boulevard, the portion that would be bypassed by the Star Valley Option.

The "UCAN route" described in UCAN's opening Phase 2 testimony would also avoid the eastern part of Alpine Boulevard, and use the Star Valley Option. Thus the "UCAN route" would bypass site CA-SDI-6706 and SDG&E's objection does not apply to the UCAN route.

---

<sup>179</sup> Ibid.

<sup>180</sup> Ironically, SDG&E appears to be tacitly agreeing with Powers Engineering's Phase 2 testimony that the DEIR has failed to analyze the 500 kV line to SCE properly.

<sup>181</sup> DEIR, p. H-105.

<sup>182</sup> Ibid. SDG&E also admits that the ESSRA would not impact the cite. SDG&E, 3/12, p. 6.37.

## **B. UCAN's recommended southern route follows the I-8 alternative with two (or possibly three) deviations**

Based on the above criteria, UCAN ruled out all Northern Routes (too long, too much undergrounding required to mitigate impacts), the Modified Route D alternative (too close to SWPL), the I-8 route between mileposts 43 and 57 (crosses two Indian reservations and requires undergrounding to mitigate impacts near Buckman Springs, and the I-8 route between mileposts 71 and 74 (avoidable undergrounding that increases costs unnecessarily). What was left was a Southern Route that:

1. Follows the I-8 route for the first 40 miles west from the Imperial Valley substation.
2. Follows the BCD route for 19 miles instead of the I-8 route between I-8 mileposts 40 and 58
3. Follows the I-8 route west for 13 miles from milepost 58 to milepost 71.
4. Follows the Modified Route D route south for 2 miles from Modified Route D milepost 36 to milepost 34, with a substation at the DEIR's Modified Route D substation site.
5. Follows the SVO (Star Valley Option) route for its 3 mile length.
6. Follows the I-8 route from milepost 74 on west to Sycamore Canyon.
7. If appropriate, follows CC alternative between I-8 mileposts 80 and 82.
8. Uses the RPCC alternative to avoid any further new transmission line construction west of Sycamore Canyon substation, as in the DEIR's Environmentally Superior Southern and Northern Routes.

## **C. The "UCAN" route is electrically equivalent to the proposed route**

In response to a DRA data request, SDG&E has indicated that it believes both Southern and Northern Routes are equivalent to the proposed Sunrise route in terms of their impact on the SDG&E's system to import electricity under both N-0 and N-1 conditions.<sup>183</sup> The "UCAN route" is the same as the Environmentally Superior Southern Route for the first 40 miles and the last 27 miles, and has its 500/230 kV substation in the same place. The middle section of the "UCAN route" is shorter than the corresponding section of the Environmentally Superior

---

<sup>183</sup> SDG&E, 2/15/08 response to DRA data request 17-1a.

Southern Route (35 miles versus 43 miles).<sup>184</sup> Thus, in electrical terms, the “UCAN Route” should be very slightly superior to the Environmentally Superior Southern Route because of its shorter length and lower line losses.

### **D. The resulting “UCAN” route should be cheaper than the proposed route**

Based on SDG&E’s Phase I cost estimates, the Environmentally Superior Southern Route would cost some \$60 million less than the proposed project, even if the proposed project were modified to use the RPCC-alternative for the Coastal Link.<sup>185</sup> Specifically, the Environmentally Superior Alternative would cost about \$22 million less than Sunrise (with the RPCC alternative) for 500 kV lines,<sup>186</sup> about \$73 million less than Sunrise for overhead 230 kV lines,<sup>187</sup> about \$68 million more than Sunrise for underground 230 kV lines,<sup>188</sup> and about \$33 million less than Sunrise for underground 69 kV and 92 kV lines.<sup>189</sup>

The “UCAN route” would have the same 230 kV facilities and substation as the Environmentally Superior Southern Route, but about 8 miles fewer of 500 kV line.<sup>190</sup> Using SDG&E’s Phase I cost estimates, that would make the “UCAN Route” some \$22 million cheaper than the Environmentally Superior Southern Route,<sup>191</sup> and thus \$82 million cheaper than the proposed route,<sup>192</sup> even if the proposed route were modified to use the cost-saving RPCC alternative<sup>193</sup> and had no extra mitigation costs. Compared to SDG&E’s Phase I proposal with a

<sup>184</sup> See Figure ES-17 on p. ES-57 of the DEIR.

<sup>185</sup> The RPCC Alternative, which is part of the Environmentally Superior Northern and Southern Alternatives, eliminates all transmission lines west of Sycamore Canyon substation.

<sup>186</sup> Ex. SD-6, table following p. V-14, pp. 3-4 of 4, showing 500 kV costs of \$155.975 million for the 84 miles of “Desert Link” line, plus 50.7 percent for contingency, AFUDC, and escalation, for a total of \$2.8 million/mile.  $8 \times \$2.8 = \$22.4$  million.

<sup>187</sup> Ex. SD-6, table following p. V-14, pp. 3-4 of 4, showing 230 kV costs of \$50.775 million for the 21 miles of “Inland Valley” 230 kV line, plus 50.7 percent for contingency, AFUDC, and escalation, for a total of \$76.5 million.  $\$76.5 \times 20/21 = \$72.9$  million.

<sup>188</sup> 5.9 miles of Southern Route underground double-circuit 230 kV line (DEIR, p. ES-4) vs. 4.2 miles of Sunrise project double-circuit underground line east of Sycamore valley (DEIR, p. ES-11), at \$20 million/circuit-mile. Note that if the RPCC Alternative were not adopted, the Sunrise alternative would also include over \$96 million for underground 230 kV line in the “Coastal Link” settlement (Ex. SD-6, table following p. V-14, pp. 2 and 4 of 4, showing underground 230 kV costs of \$63.983 million for the “Coastal Link” 230 kV line, plus 50.7 percent for contingency, AFUDC, and escalation, for a total of \$96.4 million).

<sup>189</sup> Ex. SD-6, table following p. V-14, pp. 1-2 and 4 of 4, showing underground 69 and 92 kV costs of \$22.092 million in ABDSP, plus 50.7 percent for contingency, AFUDC, and escalation, for a total of \$33.3 million.

<sup>190</sup> See Figure ES-17 on p. ES-57 of the DEIR.

<sup>191</sup> Ex. SD-6, table following p. V-14, pp. 3-4 of 4, showing 500 kV costs of \$155.975 million for the 84 miles of “Desert Link” line, plus 50.7 percent for contingency, AFUDC, and escalation, for a total of \$2.8 million/mile.  $8 \times \$2.8 = \$22.4$  million.

<sup>192</sup> “UCAN route” is \$22 million less than the Environmentally Superior Southern Route, which in turn is \$60 million cheaper than the proposed route with the RPCC alternative.  $\$60 + \$22 = \$82$  million.

<sup>193</sup> As discussed in the RPCC Phase I brief, the RPCC alternative west of Sycamore Canyon substation would save tens of millions of dollars compared to the SDG&E proposal, and quite possibly more than \$100 million. SDG&E’s preliminary numbers provided in response to UCAN DR35-12 suggest that the RPCC route would be at least \$77

Sycamore Canyon-Penasquitos 230 kV line, and assuming mitigation costs similar to those estimated by SDG&E for the Environmentally Superior Southern Route,<sup>194</sup> the “UCAN route” would be \$211 million cheaper than SDG&E’s proposed Sunrise route.<sup>195</sup>

## **E. The resulting route has expansion options that SDG&E’s Sunrise route lacks**

### **1. Close to Mexican and eastern San Diego County wind resources**

The “UCAN route” would pass directly by the proposed site for the Jacumba 500 kV substation to interconnect Sempra Generation windpower from Mexico.<sup>196</sup> It would pass directly by the Jacumba 230/500 kV substation site identified in the DEIR.<sup>197</sup> It would pass approximately one mile from the existing Boulevard 69 kV substation,<sup>198</sup> a likely collection point for San Diego County wind generation. Thus, unlike the proposed route and all other Northern Routes, the “UCAN route” would be ideally placed for interconnection of future Mexican and San Diego County wind resources.

### **2. 230 KV lines pass near (2 miles) Los Coches substation, a likely future 230 kV substation as SDG&E expands its internal grid.**

SDG&E’s Los Coches substation is located on the west side of Lake Jennings in Lakeside, approximately two miles south of milepost 87 on the I-8 route.<sup>199</sup> Los Coches is currently a 69 kV and 138 kV substation, but has been suggested in the past as a potential 230 kV substation to

---

million cheaper than SDG&E’s own Coastal Link proposal, as calculated in a footnote above. If any new line to Sycamore Canyon from the east is going to be built, UCAN would certainly support the RPCC alternative over the SDG&E proposal for a new line west of Sycamore Canyon.

<sup>194</sup> The “UCAN route” would be identical to the Environmentally Superior Southern Route for 67 miles of its 102 mile total length, and would have the same substation site. The part of the “UCAN route” which deviates from the Environmentally Superior Southern Route would be shorter (35 miles versus 43 miles). It is thus reasonable to expect the environmental mitigation costs for the two routes to be similar.

<sup>195</sup> \$82 million cheaper based on shorter line length east of Sycamore Canyon and SDG&E’s Phase I estimates of cost per mile; \$77 million cheaper based on RPCC alternative instead of SDG&E’s proposed Sycamore Canyon-Penasquitos Coastal Link; \$52 million cheaper based on lower mitigation costs. \$82 + \$77 + \$52 = \$211 million.

<sup>196</sup> See Sempra Generation Presidential Permit Application, 12/18/07, showing the proposed 500 kV substation immediately west of the San Diego/Imperial County border, at about milepost 30 of the I-8 route (as shown on DEIR Figure ES-17, p. ES-57.

<sup>197</sup> At milepost 35 of the I-8 route.

<sup>198</sup> See DEIR, Figure ES-17 on p. ES-57, showing BCD route milepost 0.0 approximately 1 mile from the Boulevard substation.

<sup>199</sup> See DEIR, Figures D.1-13, E.1.1-2d.



interconnect wind generation to the SDG&E grid. The DEIR appropriately identifies Los Coches as a prospective future 230 kV substation.<sup>200</sup> Four existing 230 kV lines already pass right by Los Coches substation (and within one mile of the “UCAN route between I-8 route mileposts 87 and 88): The Otay Mesa-Sycamore line, the Miguel-Sycamore line, and the Miguel-Mission #1 and #2 lines.<sup>201</sup>

Building the “UCAN route” (or the I-8 route, or the Environmentally Superior Southern Route) would allow for future expansion of the SDG&E grid by looping one of the proposed 230 kV lines south for two miles into Los Coches, following the existing Creelman-Los Coches 69 kV ROW. This would be far less environmentally disruptive than the 230 kV system expansion to Los Coches shown in the DEIR for the proposed project, which requires a 40.5 mile long 230 kV line from Central to Los Coches, passing through the Barona Indian Reservation.<sup>202</sup> Even if the future expansion involved a new (third) 230 kV line from the “Modified Route D Substation” to Los Coches, that would still be only an 18 mile long line, not the 40.5 miles required for a third 230 kV line out of the Central substation.<sup>203</sup>

Curiously enough, while the DEIR identifies future expansion options for the proposed project which include new 230 kV lines from Central to Escondido, Penasquitos, Sycamore Canyon, and Los Coches, it only describes expansion to Escondido for the Southern Route.<sup>204</sup> The DEIR thus substantially understates the future expandability of Southern Routes in general, and the “UCAN route” in particular.

---

<sup>200</sup> DEIR, pp. B-24., B-27, B-28, B-29.

<sup>201</sup> See DEIR, Figure D.1-13 showing physical line locations parallel to and south of the I-8 route between mileposts 87 and 88. See <http://www.caiso.com/1c9b/1c9bd50412490.pdf>, p. 20 of 39, for an 11/20/07 ISO presentation showing the SDG&E system schematically. The Los Coches substation is shown on the ISO schematic as the “LC” substation on the right side of the page, south of the Sycamore substation and west of the Carlton Hills (“CH”) substation

<sup>202</sup> DEIR, Figure B-12a on p. B-29. SDG&E has preliminarily asserted that construction of more than two underground 230 kV lines under Alpine Boulevard would not be feasible (SDG&E, 3/7/08 response to UCAN DR36-1), but even if this assertion turns out to be true, the ability to loop the initial two 230 kV lines into a future Los Coches 230 kV substation will meet the expandability goal of using the new 500 kV line to feed more than one 230 kV substation on the SDG&E system.

<sup>203</sup> The distances from the “Utah route” substation to other SDG&E 230 kV substations besides Los Coches would also be shorter than the corresponding distances from SDG&E’s proposed Central substation. According to the DEIR, new 230 kV lines from Central to Mission would have to be 57 miles long, from Central to Penasquitos would be 58 miles, from Central to Sycamore Canyon would be 45 miles, and from Central to Escondido would be 64 miles by the Southern Route (the Northern Route would be “only” 47 miles but would require crossing two different Indian Reservations. See the DEIR, Figure B-12a, and text on the preceding page B-28.

<sup>204</sup> DEIR, pp. E.1.1.-7 and -8. The DEIR fails to describe the option of future expansion to Los Coches for the Southern Route, even though most Southern Routes (including the I-8 route, the “UCAN route” and the Environmentally Superior Southern Route) pass within two miles of Los Coches substation.

### **F. Potential for delay**

The “UCAN route” would require a CNF plan amendment because it crosses the PCT and crosses 4.1 miles of BCNM land.<sup>205</sup> However, February 25, 2008 statements by State Parks and Recreation’s counsel indicated that the Northern Route would also require a Plan amendment. Generally, the BCD alternative crosses the second-least amount of CNF lands of any Southern Route.<sup>206</sup> Thus, the “UCAN route” should not require any more licensing time than a comparable Northern Route, as proposed by SDG&E.

### **G. The BCD portion of the “UCAN route” offers some measure of fire protection**

Under Santa Ana wind conditions, a fire along the BCD portion of the UCAN alternative would tend to burn southwest towards I-8, which would act as a natural firebreak, limiting the maximum area at risk to under 50,000 acres and only 16 structures.<sup>207</sup> The fire risk along the BCD section (as shown in the DEIR) is considerably lower than along the Modified D portion of the Southern Route, and does not include any risk of a fire along the BCD route spreading into the SWPL right-of-way.<sup>208</sup>

### **H. Overall environmental comparison to the Sunrise proposal**

The “UCAN route” has a comparable number of unmitigable Class I impacts to the Modified D route, and 10 percent fewer Class I impacts than the I-8 route section it would bypass.<sup>209</sup> It has substantially fewer unmitigable Class I impacts than the 50 associated with SDG&E’s proposed route.<sup>210</sup> Also, if the Campo reservation cannot be crossed, the BCD route

---

<sup>205</sup> DEIR, pp. D.17-6 (plan amendments required for various alternative routes) and D.17-14 (mileage of CNF land types crossed by alternative routes). SDG&E has preliminarily identified this as a possible reason for the “UCAN route” to be infeasible (SDG&E, 3/7/08 response to UCAN DR36-1), but requiring a plan amendment is not a fatal flaw for a route (or else the proposed route through ABDSP would also be infeasible).

<sup>206</sup> DEIR, p. D.17-14.

<sup>207</sup> DEIR, pp. E.2.15-8 to -10; proposed mitigation would further reduce the area and structures at risk to under 10,000 acres and zero structures.

<sup>208</sup> DEIR, p. E.4.15-10. SDG&E has identified fire risk in the Cleveland National Forest as a potential reason for the “UCAN route” to be infeasible (SDG&E, 3/7/08 response to UCAN DR36-1), but has not (at least to date) acknowledged the lower fire risk from the BCD route as compared to routes south of I-8.

<sup>209</sup> 24 vs. 27; DEIR, p. H-92.

<sup>210</sup> DEIR, p. ES-4.

becomes the only feasible Southern Route, but it is feasible and meets all project objectives.<sup>211</sup> The “UCAN route” is shorter than the proposed project, and avoids “numerous direct impacts within Anza-Borrego Desert State park including de-designation of state wilderness, degradation of views and recreational opportunities, and impacts on Traditional Cultural Properties.”<sup>212</sup> The “UCAN route” also avoids “severe visual impacts in Santa Ysabel Valley.”<sup>213</sup> It is environmentally superior to the proposed project, which should therefore be rejected.<sup>214</sup>

---

<sup>211</sup> DEIR, p. H-94.

<sup>212</sup> DEIR, p. ES-4.

<sup>213</sup> Ibid.

<sup>214</sup> Besides other objections to the feasibility of the “UCAN route” (in its 3/7/08 response to UCAN DR36-1; see discussion and footnotes in sections IV.E, F, and G, above), SDG&E has also suggested that the “UCAN route” may be environmentally infeasible because “a large habitation site has been mapped in the Alpine area that could be significantly impacted by the same undergrounding proposed by Aspen’s Southern Route.” SDG&E, 3/7/08 response to UCAN DR36-1. SDG&E does not identify the location of site CA-SDI-1706, and the only identification of the location of this site in the DEIR describes it as being along the underground portion of the I-8 route (i.e., under Alpine Boulevard). DEIR, Appendix 9B, Table Ap. 9B-85, with the “significant” impact being the presence of human remains. But the “UCAN route” bypasses the easternmost several miles of the I-8 route underground section, so it is not even certain that the UCAN route would pass through the site referenced by SDG&E. In any case, as indicated above in the discussion of the Stirling project, the Stirling project site and the Sunrise route would each also affect sites containing human remains, so doing so is clearly not a fatal flaw.

**Table of Contents**

I. Intro and Summary ..... 1

II. Options 1-5 on pp. ES-2 to ES-4, plus the No Action alternative on p. ES-4 ..... 1

    A. Costs to construct..... 2

        1. Environmental mitigation for the Sunrise route identified in the DEIR ..... 2

        2. DEIR, p. C-4: Environmentally preferred Southern Route ..... 3

    B. DEIR, p. ES-19: Sunrise “3-legged stool” of benefits quantified by the DEIR are in error ..... 5

    C. DEIR, pp. ES-9, ES-30,ES -31: Sempra’s 500 KV line to Mexico from SWPL, and a 500/230 kV substation in Mexico, suggest that either Sunrise is not needed to deliver renewables or that a Southern Route would be more appropriate for interconnecting to Mexican wind ..... 8

    D. DEIR, p. C-146: The existing SWPL is enough to meet DEIR Basic Project Objective 3 ..... 11

    E. DEIR, p. ES-20: DEIR CONTAINS AN INADEQUATE ANALYSIS OF THE NO-PROJECT ALTERNATIVE. .... 12

    F. DEIR, p. A-11: New supply side alternatives within the SDG&E service area - up to 282+ Mw of renewable or DG generation..... 15

    G. DEIR, p. C-148: DEIR UNDERSTATES DEMAND-SIDE OPTIONS..... 17

    H. DEIR, p. C-151: Transmission alternatives provide reliability ..... 20

III. DEIR, pp. E-66, E-67: The DEIR understates the robustness of the No Action Alternative ..... 20

    A. DEIR understates the reliability of the No Action Alternative ..... 20

    B. DEIR undervalues the components of its own No Project Alternative ..... 21

        1. DEIR, pp. Ap1-263 and -264: Path 44 ..... 21

        2. DEIR, p. C-147: Miguel substation ..... 22

        3. DEIR, pp. C-27, C-28, C-142, C-143, C-147, C-148: EE and DR ..... 23

        4. DEIR, p. AP1-306: In-basin solar ..... 23

        5. DEIR, pp. C-27, -140, C-141: Distributed generation ..... 24

- 6. In-basin generation options ..... 24
- IV. DEIR alternative 4 -- UCAN proposes a modification to this alternative which is on cost grounds, equal with regard to reliability, and superior environmentally ..... 26
  - A. Route selection criteria ..... 26
    - 1. Avoid southernmost part of modified D option because of potential reliability argument – too close (< 4 miles) to SWPL in area burned in 10/07 fires ..... 26
    - 2. Avoid I-8 route through Buckman Springs area ..... 26
  - B. UCAN’s recommended southern route follows the I-8 alternative with two (or possibly three) deviations ..... 29
  - C. The “UCAN” route is electrically equivalent to the proposed route ..... 29
  - D. The resulting “UCAN” route should be cheaper than the proposed route ..... 30
  - E. The resulting route has expansion options that SDG&E’s Sunrise route lacks ..... 31
    - 1. Close to Mexican and eastern San Diego County wind resources ..... 31
    - 2. 230 KV lines pass near (2 miles) Los Coches substation, a likely future 230 kV substation as SDG&E expands its internal grid. 31
  - F. Potential for delay ..... 33
  - G. The BCD portion of the “UCAN route” offers some measure of fire protection ..... 33
  - H. Overall environmental comparison to the Sunrise proposal ..... 33