California ISO
Your Link to Power

California Independent
System Operator Corporation

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Re: A.06-08-010; Comments of the California Independent System Operator Corporation on the Draft Environmental Impact Report/Environmental Impact Statement for the Sunrise Powerlink Transmission Project

Dear Ms. Blanchard & Ms. Kastoll:

Pursuant to the California Environmental Quality Act and the National Environmental Policy Act, the California Independent System Operator Corporation (CAISO) submits these comments on the Draft Environmental Impact Report/Environmental Impact Statement (DEIR/EIS) for the Sunrise Powerlink Transmission project (Sunrise).

I. THE CAISO

The CAISO is a not-for-profit public benefit corporation established in 1998. The CAISO serves as an impartial link between power plants and the utilities that provide electricity to customers, ensuring equal access to transmission facilities formerly under utility control.

Public Utilities Code section 345 obligates the CAISO to provide for the "efficient and reliable operation of the transmission grid." To do this, the CAISO operates a complex network of transmission facilities needed to transmit power to load centers and acts as a clearinghouse for thousands of market transactions every day. The CAISO also plays an important role with respect to the development of renewable energy resources by planning for the development and operation of the facilities that provide these resources with access to the grid and markets. In order for the CAISO to meet its statutory responsibilities, however, critical infrastructure must be in place when and where it is needed.

The CAISO has determined through its planning process that there is a need for additional infrastructure in order to meet long-term reliability needs in the San Diego area. Based on its analysis, the CAISO has further determined that Sunrise will help San Diego Gas & Electric Company ("SDG&E") satisfy this long-term reliability need by significantly increasing the amount of power that SDG&E can import into its service area and increase access to renewable energy resources that are needed for SDG&E to meet RPS requirements. Accordingly, the CAISO has a significant interest in the DEIR/EIS, particularly with respect to alternatives to Sunrise, because of the potential impact on electricity reliability and the development of renewable energy resources necessary to meet RPS goals.

II. PROJECT OBJECTIVES

The DEIR/EIS notes that the California Public Utilities Commission (CPUC) and Bureau of Land Management have identified three "basic project objectives" which are used in the DEIR/EIS to screen potential alternatives to Sunrise. These three project objectives are:

1. To maintain reliability in the delivery of power to the San Diego region;

2. To reduce the cost of energy in the region; and

3. To accommodate the delivery of renewable energy to meet State and federal renewable energy goals from geothermal and solar resources in the Imperial Valley and wind and other resources in San Diego County.[1]

With respect to the alternatives identified in the DEIR/EIS as "environmentally superior," only Sunrise would meet all of the above objectives. As discussed below, the CAISO has identified material factual inaccuracies with respect to the alternatives that the DEIR/EIS finds are environmentally superior and has significant concerns regarding the ability of these alternatives to ensure electric reliability, reduce energy costs, and increase access to needed renewable generation.

III. NEW IN-AREA ALL-SOURCE GENERATION ALTERNATIVE

The DEIR/EIS describes the All-Source Generation Alternative as providing approximately 1,000 MW of in-area generation consisting of one natural-gas fired combined cycle (*i.e.*, base load) power plant, four natural-gas fired peaking power plants, and a combination of wind, solar photovoltaic (PV) and biomass/biogas renewable generation facilities.

The CAISO is concerned that this alternative cannot feasibly be implemented in time to meet the reliability needs of the San Diego area, and that these resources identified will not provide sufficient capacity to meet these needs, for the reasons set forth below.

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[1] DEIR/EIS at ES-20.

A. Base Load Generation

The DEIR/EIS identifies three potential base load generation projects: (1) the South Bay Replacement Project (nominal capacity 620 MW); (2) the San Diego Community Power Project being developed by ENPEX (nominal capacity 750 MW); and (3) the Encina Power Plant Repowering (nominal capacity 540 MW). The CAISO has significant questions regarding whether the South Bay Replacement Project and ENPEX project will be built.

With respect to the South Bay Replacement Project, the CAISO was notified in October 2007 that the project developer was unable to secure site control for the project, had elected not to proceed with executing a Large Generator Interconnection Agreement, and was no longer pursuing development of the project. The project developer has also withdrawn its application for certification (AFC) with the California Energy Commission (CEC) for the project.[2] Given the time necessary to acquire site control, obtain necessary regulatory approvals, and complete construction, it is *not* reasonable to believe that the South Bay Replacement Project can or will be built in the next several years, even if the project developer immediately resumed development activities. In any event, at the present time, it appears unlikely that the South Bay Replacement Project will be built at all.

The inclusion of the ENPEX project in the DEIR/EIS also raises several concerns for the CAISO. ENPEX has not even submitted an AFC to the CEC for the project and, as the DEIR/EIS notes, the development status of the project is unclear.[3] Thus, there is no evidence suggesting that ENPEX is moving forward with the development of the project at this time. Moreover, even if ENPEX were to submit an AFC for the project soon, there are significant questions regarding when the project could be timely completed given permitting and construction times. Certainly, it does not appear to the CAISO that it is reasonable to expect that the ENPEX project could be constructed within the time period assumed in the DEIR/EIS. Moreover, the City of Santee opposes the ENPEX project, which could further delay or perhaps prevent construction should ENPEX decide to move forward with developing the project.

In addition, for the CAISO's grid planning purposes, only generation projects that are under construction are considered when assessing the need for transmission system additions in 5- year planning cases and only projects that are under construction or have received regulatory approval are modeled for 10-year planning cases.[4] Because the ENPEX project has not received regulatory approval, the CAISO does not assume that the project will be online within the next 5-10 years (2013 - 2018) for planning purposes.

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[2] DEIR/EIS at Ap.1-325, note 29.
[3] DEIR/EIS at Ap.1-332
[4] *See* "Generation Assumptions for Grid Planning Studies." This document can be found at http://www.caiso.com/docs/2001/06/25/20010625134406100.pdf

The Encina project is much further along in the permitting process and a decision from the CEC on an AFC for the project is expected any time.[5] The Encina project, however, is a repowering project, meaning that it will simply replace a portion of existing capacity[6] with new capacity, resulting in a net increase in capacity of approximately 220 MW – not the entire 540 MW nameplate capacity for the project. Thus, assuming that the Encina repowering project is built, the project would not result in a net 540 MW increase in available local generation capacity as the DEIR/EIS apparently assumes.

In light of the above, the CAISO does not believe it is prudent planning practice to rely upon the South Bay Replacement Project, the ENPEX project, or the Encina repowering project when evaluating the All-Source Generation Alternative to Sunrise.

B. Natural-Gas Fired Peaking Power Plants

The DEIR/EIS identifies four specific peaking power plant projects within San Diego resulting from SDG&E's 2008 Peaker request for offers (RFO) and assumes that these projects will be online in 2008.[7] Based on this assumption, the DEIR/EIS provides that 250 MW of "incremental firm on-peak [new or expanded peaker] capacity" can be expected by 2010.[8] The four peaker projects considered by the DEIR/EIS are located at: (1) Miramar substation (49 MW); (2) Pala substation (99 MW); (3) Margarita substation (99 MW); and (4) Borrego Springs substation (15 MW).[9] In addition, the DEIR/EIS identifies four other peaker projects that could be online by 2010 if the four specific peaker projects resulting from SDG&E's 2008 Peaker RFO are not fully developed to achieve the 250 MW target.[10]

The CAISO is concerned that these peaker projects will not result in 250 MW of incremental firm, on-peak capacity as assumed in the DEIR/EIS. As an initial matter, the CAISO's "need" analysis already assumes that 138 MW of the 198 MW of capacity the DEIR/EIS assumes for the peaker projects located at the Pala (99 MW) and Margarita (99 MW) substations will be on-line in 2008.[11] Thus, at most, the Pala and Margarita projects would seem to contribute only an additional 50 MW of on-peak capacity above what the CAISO has already assumed for these projects.

With respect to other peaker projects identified in the DEIR/EIS that could potentially make-up this shortfall, it is unclear whether any of these projects will actually be constructed. As the DEIR/EIS notes, no public information is available for the Kearney Mesa peaker or the

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[5] *See* Carlsbad-NRG, Docket No. 07-AFC-6, http://www.energy.ca.gov/sitingcases/all_projects.html.
[6] DEIR/EIS at Ap.1-334.
[7] *See* DEIR/EIS at C-78; Ap.1-335.
[8] DEIR/EIS at Ap.1-326 (Table Ap.1-15).
[9] DEIR/EIS at Ap.1-335 – 1-336.
[10] *See* DEIR/EIS at Ap.1-336 – 1-337.
[11] *See* CAISO Ex. I-6 at 39 (Table 5).

Escondido peaker expansion projects, and the CEC provides no information on the status of these projects.[12] The Chula Vista Peaker expansion project has filed an AFC with CEC but, without a power purchase agreement, it is unclear whether the project can be financed or constructed. Thus, there is little evidence to suggest that these peaker projects will go forward, which in turn raises significant questions regarding the reasonableness of relying on these projects when evaluating the All-Source Generation Alternative.

C. Renewable Generation Included in the All-Source Generation Alternative.

Renewable generation included in the All-Source Generation Alternative consists of:

- Approximately 200 MW (nameplate) of wind power located in the Crestwood Summit/Boulevard area by 2010 with an additional 200 MW (nameplate) by 2016. For reliability accounting purposes, this equates to 48 MW by 2010 and an additional 48 MW by 2016.13
- Approximately 50 MW (both nameplate and for reliability accounting purposes) of biomass or landfill gas generation by 2010 with an additional 50 MW by 2016.14
- Approximately 210 MW (nameplate) of solar photovoltaic ("PV") to be installed on unidentified residential and commercial buildings by 2010. For reliability accounting purposes, this equates to 105 MW by 2010, reduced to 84.5 MW by 2016.15
- Approximately 300 MW (nameplate) of solar thermal to be developed near Borrego Springs by 2016. For reliability accounting purposes, this equates to 240 MW by 2016.

Assuming, arguendo, that all of these resources are constructed within the time frames noted in the DEIR/EIS, nameplate capacity in the San Diego area would increase 460 MW by 2010 and 969 MW by 2016. For reliability accounting purposes, this equates to 203 MW in 2010 and 520.5 MW in 2016.[16]

The CAISO is concerned with the conclusion stated in the DEIR/EIS that renewable resources will provide 203 MW of incremental firm on-peak capacity by 2010 and/or 520.5 MW by 2016. Given the challenges in developing large scale renewable energy projects and the fact that some of the renewable projects identified in the DEIR/EIS do not even have sites and/or are currently not being developed, it is extremely risky to rely upon the renewable generation projects identified in the DEIR/EIS in evaluating the All-Source Generation Alternative.

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[12] DEIR/EIS at Ap.1-336 – 1-337.
[13] DEIR/EIS at Ap.1-312 (Table Ap.1-13); Ap.1-317 – 1-318.
[14] DEIR/EIS at Ap.1-312 (Table Ap.1-13); Ap.1-318 – 1-321.
[15] DEIR/EIS at Ap.1-312 (Table Ap.1-13); Ap.1-313 – 1-317; Ap.1-337.
[16] DEIR/EIS at Ap.1-312 (Table Ap.1-13).

For instance, with respect to potential solar thermal generation, the DEIR/EIS notes that no developers have identified sites in the Borrego Springs area that could accommodate a 300 MW solar thermal project.[17] Moreover, to build 300 MW of solar thermal nameplate capacity, the DEIR/EIS notes that approximately 1,500 acres of land would be needed.[18] Even if such a large site could be found, the CAISO believes interconnecting such generation would require substantial additions or upgrades to the transmission infrastructure, including at least 40 miles of additions or upgrades from Borrego Springs to the closest existing 230 kV or 138 kV substation, as well as with downstream upgrades beyond the existing 230 kV or 138 kV substation.

The CAISO also has concerns with the ability of potential wind resources to provide incremental firm on-peak capacity as assumed in the DEIR/EIS. As an initial matter, the DEIR/EIS notes that 400 MW of wind generation would require 2,000 acres of land in the San Diego area, which would seem to present significant land acquisition and permitting challenges. Significant transmission infrastructure would also be needed to interconnect new wind resources to the grid and that would take years to become operational given permitting and construction timelines. Furthermore, there are serious deliverability issues associated with new wind generation in the Crestwood area identified in the DEIR/EIS.

In order to achieve 210 MW of solar PV nameplate capacity, more than 26,649 residential and 85 commercial installations would need to occur each year. This is 25,000 more residential and 36 more commercial installations than currently occur each year.[19] Moreover, the DEIR/EIS notes that developing 210 MW of solar PV capacity would require approximately 500 workers per year installing individual PV systems through San Diego County over 3 years.[20] Given this massive undertaking, it would seem unlikely that the amount of solar PV assumed to be online in the DEIR/EIS is achievable.

IV. NEW IN-AREA RENEWABLE GENERATION ALTERNATIVE

The Renewable Generation Alternative consists of the same renewable resources that the DEIR/EIS identifies for the renewable portion of the All-Source Generation Alternative. The CAISO has the same concerns with this alternative that are discussed above with respect to the All Source Generation Alternative. In particular, with respect to the renewable portion of the All-Source Generation Alternative, there is little evidence at this time to suggest that the renewable generation projects identified in the DEIR/EIS will be developed and constructed. Thus, it is not prudent nor reasonable to rely upon the renewable generation projects identified in the DEIR/EIS in evaluating Renewable Generation Alternative.

However, even if the CPUC were to assume that these renewable resources could be timely built, the associated capacity would be significantly less that the 1,000 MW of import capability to be

[17] DEIR/EIS at Ap.1-312.
[18] DEIR/EIS at Ap.1-313.
[19] *See* DEIR/EIS at Ap.1-313.
[20] DEIR/EIS at Ap.1-313 – 1-317.

provided by Sunrise. As a result, the CAISO does not believe the Renewable Generation Alternative represents an actual alternative to Sunrise.

V. LEAPS Transmission-Only (TE/VS) Alternative

The CAISO has studied a LEAPS "transmission only" alternative and has identified two areas of factual inaccuracies in the DEIR/EIS's evaluation of this alternative. First, the DEIR/EIS incorrectly assumes that TE/VS would provide the same reliability benefits to the SDG&E area as Sunrise.[21] Second, the DEIR/EIS incorrectly concludes that TE/VS would "partially" achieve the objective of delivering renewable generation from the Imperial Valley and the Salton Sea areas.

Sunrise will reduce the San Diego locational capacity requirement (LCR) by 1000 MW. The DEIR/EIS describes TE/VS as having a designed capacity of 1300 MW to 1600 MW.[22] There is no further explanation provided to support this conclusion, so the CAISO assumes that the DEIR/EIS equates the designed capacity of TE/VS with the ability of TE/VS to reduce LCR. It is incorrect to equate the designed capacity of TE/VS with the ability of TE/VS to reduce LCR.

Taking into account the operation of "phase shifters," the CAISO determined that the TE/VS project would reduce LCR by 625 MW in the San Diego area. This increase does not bring TE/VS to the level of Sunrise in terms of reliability benefits, and it certainly is nowhere near the 1300-1600 MW level of reliability benefits assumed in the DEIR/EIS.

With respect to assisting SDG&E in its ability to meet renewable energy requirements by facilitating access to sources of solar and geothermal energy in the Imperial Valley and Salton Sea areas, the DEIR/EIS acknowledges that this objective cannot be met by the TE/VS alternative. Rather, the DEIR/EIS provides that the renewable energy objective will be met only "partially" because the ability of TE/VS to access renewables is dependent upon the completion of the Green Path North project, in conjunction with Southern California Edison's (SCE) second Devers-Palo Verde 500 kV line (DPV2).[23] The conclusion that TE/VS by itself cannot provide access to Imperial Valley and Salton Sea renewables is consistent with the CAISO's analysis.

The DEIR/EIS does state that the TE/VS alternative could provide *indirect* access to renewable generation in the Imperial Valley and Salton Sea areas. The CAISO does not believe such a conclusion is accurate or reasonable. The DEIR/EIS assumes that the combination of the Devers-Palo Verde and DPV2 lines in the SCE territory, together with TE/VS, "could allow for the importation of low cost conventional generation from the Blythe area or the Palo Verde hub in Arizona, thereby freeing capacity on the existing SWPL [Southwest Power Link] to import renewable power from the Imperial Valley."[24] However, interconnected electric power systems

[21] *See e.g.,* DEIR/EIS at Ap.1-260.
[22] DEIR/EIS at C-69; A.1-260.
[23] DEIR/EIS at Ap.1-258.
[24] DEIR/EIS at Ap.1-258.

do not work the way assumed by the DEIR/EIS. Power flow from the Blythe area or the Palo Verde hub into the CAISO control area would naturally flow through both the Devers Substation and Miguel Substation. The TE/VS phase shifters are ineffective at regulating the flow through Miguel substation.

TE/VS clearly does not meet the Project Objectives identified in the DEIR/EIS unless other projects, the implementation of which are uncertain, are considered in combination with TE/VS. Accordingly, the CAISO does not believe it is reasonable to consider TE/VS to be a comparable alternative to Sunrise, and the DEIR/EIS determination that this alternative meets the screening criteria for project alternatives is incorrect.

VI. SOUTHERN ROUTE ALTERNATIVE 4

According to the DEIR/EIS, DEIR/EIS Alternative No. 4 is the Interstate 8 Alternative with Modified Route D Alternative and three segment route options. It is the CAISO's understanding that this alternative is collocated with the Southwest Power Link (SWPL) for 36 miles in an area of lower fire risk.[25]

The CAISO has evaluated DEIR/EIS Alternative No. 4 and determined that this alternative would perform *electrically* similar to Sunrise. However, from a reliability perspective, the Western Electricity Coordinating Council (WECC) Planning Coordination Committee recently determined that the risk of a common corridor outage of both 500 kV lines (DEIR/EIS Alternative 4 and the existing SWPL) was significant and would require a remedial action scheme designed to trip up to 1000 MW of load in the San Diego area and up to 2000 MW of generation in the Imperial Valley area in order to protect against this risk. Thus, according to WECC's determination, there is a significant risk of load shedding with DEIR/EIS Alternative 4. In contrast, the WECC has recently determined that there is not a similar risk of a common corridor outage for Sunrise.

VII. LEAPS GENERATION AND TRANSMISSION ALTERNATIVE

The CAISO's concerns with this alternative are the same as discussed above with respect to the TE/VS Alternative. The TE/VS + LEAPS Alternative fails to meet either the reliability objective or the access to renewables objective for all of the same reasons that the TE/VS Alternative does not meet these objectives. The TE/VS + LEAPS alternative does not meet the Sunrise reliability and access to renewable generation objectives discussed above in these comments and should not be considered an alternative to Sunrise.

VIII. NO PROJECT ALTERNATIVE

It is the CAISO's understanding that an evaluation of a No Project Alternative is a required part of the environmental review process that addresses the scenario that is likely to occur if Sunrise

[25] DEIR/EIS at ES-3-4.

is not approved. The generation supply-side resources included in the No Project Alternative are the same as those included in the first two environmentally superior alternatives (*i.e.*, All-Source Generation Alternative and Renewable Generation Alternative). On the transmission supply-side, the DEIR/EIS includes the TE/VS alternatives, Path 44 Upgrades and Mexico Light in this alternative as well. The CAISO has previously addressed its concerns with both the All-Source and Renewable Generation Alternatives and also the TE/VS Alternatives. If Sunrise is not approved, the CAISO does not believe that these alternatives will satisfy SDG&E's reliability needs nor provide sufficient access to renewable generation to meet renewable generation requirements.

With respect to the Path 44 Upgrades and Mexico Light, the CAISO has studied these projects and found that both options cause reliability and economic concerns on the CAISO and CFE systems. Based simply on the CAISO's study, these projects should not be included in the No Project Alternative as possible actions that would provide the same level of reliability or access to renewable benefits as Sunrise without considering the costs of mitigating the reliability, economic, and environmental concerns associated with these alternatives.

IX. CONCLUSION

It is the position of the CAISO that the alternatives identified by the DEIR/EIS as being environmentally superior to Sunrise, as well as the No Project scenario, do not meet the Sunrise objectives and should not have been included as comparable alternatives or scenarios that would meet the reliability and access to renewables needs of the San Diego area. Furthermore, DEIR/EIS Alternative 4, the Sunrise southern route proposal, poses reliability concerns that are not present with the Sunrise route as proposed or Alternative 5, the northern route alternative. The DEIR/EIS should be modified to incorporate the deficiencies described by the CAISO in these comments.

Very truly yours,

Judith B. Sanders

Judith B. Sanders
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