

VIA ELECTRONIC MAIL

May 27, 2015

Billie Blanchard
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California Public Utilities Commission
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Jeff Thomas
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Re: ISO Response to the First Set of Data Requests submitted by the California Public Utilities Commission – Energy Division in Docket No. A.14-04-011

Dear Ms. Blanchard and Mr. Thomas:

Enclosed please find the California Independent System Operator's response to the first set of data requests served by the California Public Utilities Commission – Energy Division regarding the San Diego Gas & Electric Company's Application for the Sycamore-Penasquitos 230 kV Transmission Line Project.

If you have any questions, I can be reached at 916.351.4429 or jpinyuv@caiso.com.

Sincerely,

/s/ Jordan Pinjuv

Jordan Pinjuv
Counsel
California Independent System
Operator Corporation

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

**In the Matter of the Application of San Diego
Gas & Electric Company (U902E) for a
Certificate of Public Convenience and Necessity
for the Sycamore-Penasquitos 230 Kilovolt
Transmission Line Project**

A.14-04-011

**RESPONSE OF THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION
TO THE FIRST SET OF DATA REQUESTS OF
THE CALIFORNIA PUBLIC UTILITIES COMMISSION – ENERGY DIVISION**

Request No. 1.

In a recent data request to SDG&E, the CPUC asked for a detailed description of the physical components, siting requirements, and construction timeframe for the Mission-Peñasquitos 230 kV Circuit Project. The California ISO 2014-2015 Transmission Plan identifies this project as including construction of "...a new 230 kV section to access Peñasquitos 230 kV substation from Peñasquitos junction" and "...using a de-energized portion of TL23001..." SDG&E responded by stating that this future project has not been internally evaluated and that no design information is currently available. The CPUC needs to better understand the potential details of this future project in order to complete the cumulative and alternatives analyses in the EIR. Therefore, we request a copy of any supporting background information or project details that the California ISO had available regarding the Mission-Peñasquitos 230 kV Circuit Project at the time it was approved.

ISO RESPONSE TO No. 1.

Background information on the Mission – Penasquitos 230 kV Circuit project

A thermal overload concern on TL13810 Friars-Doublet Tap 138 kV line under an L-1-1 contingency was identified in the ISO 2014-2015 transmission planning process. The limiting component for TL13810 is a two-mile section out of the existing 12.6-mile line. Two alternatives were investigated as mitigation for the violation.

- *Alternative 1: Upgrading the two-mile section on TL13810 to increase the line rating to 204 MVA from the current 150 MVA rating, with a preliminary cost range between \$4.1 and \$4.5 Million.*

- *Alternative 2: Creating a new Mission-Penasquitos 230 kV circuit (about 14 miles in length) by building a new 230 kV section (approximately 3.4 miles) to access Penasquitos 230 kV substation from Penasquitos Junction and by using the 10-mile Southern portion of TL23001 from Mission Substation to Penasquitos Junction. This project had a preliminary cost range between \$22 and \$25 million.¹*

The CAISO approved Alternative 2 because of the long-term benefits of the project, which are explained in detail below. One important factor in the CAISO's selection of Alternative 2 was the opportunity to reconfigure the 10-mile southern section of TL23001 from Mission Substation to Penasquitos, which becomes possible after the CAISO's previously approved Sycamore Canyon-Pensaquitos 230 kV project is placed in service in 2017.

CAISO Evaluation of the Mission-Penasquitos 230 kV Project

*The CAISO evaluated and compared the long-term cost effectiveness of the two alternatives in 2014-2015 transmission planning process, and approved the Mission-Penasquitos 230 kV circuit project. Both alternatives addressed the overload on TL13810 transmission line. However, the CAISO approved the Mission-Penasquitos project because it provided other long-term benefits. In particular, the Mission-Penasquitos 230 kV project will address future overloads on TL23027 Mission – Old Town, TL23028 Mission – Old Town Tap 230 kV and the TL6916 Sycamore-Scripps 69 kV lines that would be loaded as high as 99.9%, 94.2% and 95% of their emergency ratings respectively by the year of 2024 under various Category C outages. Based on these already high loadings, the CAISO expects these transmission facilities to be overloaded in the future (e.g. 2030) without the new Mission – Penasquitos 230 kV line. Upgrading the 2-mile section of TL13810 Friars – Doublet 138 kV line and building additional upgrades would not address these additional future problems and therefore is not a comparable alternative to the Mission – Penasquitos 230 kV circuit project. To achieve the same mitigation as provided by the Mission-Penasquitos Project would require other significant 230 kV upgrades to the bulk power system, such as installing a **second** Sycamore Canyon – Penasquitos 230 kV project, which would have an estimated capital cost of \$111-211 million, or a second Penasquitos-Old Town 230 kV line.*

¹ A new 230 kV bay position is needed in the 230 kV Penasquitos Substation to accommodate the new Mission-Penasquitos 230 kV line, but the existing 230 kV bay of the existing TL23001 in the 230 kV Mission Substation will be used to accommodate the new Mission-Penasquitos 230 kV circuit. The mitigation is proposed to be in service by June 1, 2019.

Relationship between the Sycamore-Penasquitos Project and the Mission-Penasquitos Project

Use of the 10-mile portion of TL23001 in the Mission-Penasquitos Project is enabled by the reconfiguration of the line as a part of the Sycamore Canyon-Pensaquitos 230 kV project. SDG&E's design for the ultimate buildout of the Sycamore-Penasquitos project included segmenting the 35-mile 230 kV Mission-San Luis Rey line (TL23001) into three portions (Northern/Central/Southern). This was done in order to minimize the environmental impact of the project, optimize the use of existing rights of way, structures, and conductors, and minimize ratepayer cost. The CAISO's review of the SDG&E plan of service concluded that it met the technical specifications of the Sycamore-Penasquitos project and SDG&E was ultimately selected as the approved project sponsor for the Sycamore-Penasquitos project in a competitive solicitation process.

Once the Sycamore-Penasquitos project goes into service in 2017, the 10-mile Southern portion of TL23001 can then be reconfigured again to form part of the Mission-Penasquitos line in 2019.²

Note that the Mission-Penasquitos Project is not intended as a substitute for the Sycamore-Penasquitos Project – both projects are necessary to obtain the required level of system reliability.

² The Northern portion is about 7 miles in length and intended to be used to eliminate the Encina Tap on the three-terminal 230 kV Encina-Palomar-San Luis Rey line creating a 2nd 230 kV line from Encina to San Luis Rey and a new 230 kV line from Palomar to San Luis Rey. The Central portion is about 2.2 miles in length and intended to be used as part of the new Sycamore Canyon-Pensaquitos 230 kV circuit. All segments of TL23001, both before and after the Sycamore-Penasquitos and Mission-Penasquitos projects, will be energized and serving load.