

**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 South Orange County
Reliability Enhancement Project.

Application 12-05-020
(Filed May 18, 2012)

**NOTICE OF EX PARTE COMMUNICATIONS OF THE
CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION**

In accordance with Rule 8.4 of the Commission's Rules of Practice and Procedure, the California Independent System Operator Corporation (CAISO) hereby gives notice of the following ex parte communications in the above proceeding.

On Monday, June 6, 2016 at 9:00 a.m. at the Commission's offices in San Francisco representatives from the CAISO met with Nick Chaset, Chief of Staff to President Picker and Christine Hammond, Advisor to President Picker. Present for the CAISO were Neil Millar, Executive Director of Infrastructure Development, Delphine Hou, Manager of State Regulatory Affairs, Frank Chen, Senior Regional Transmission Engineer, and Jordan Pinjuv, Counsel. Keith Casey, Vice President, Market and Infrastructure Development, participated by phone. The communication was oral and written (attached).

During the meeting, Mr. Millar provided a brief overview of the CAISO's transmission planning process and the opportunities for stakeholders to participate in that process. Mr. Millar explained that since the CAISO's approval of the South Orange County Reliability Enhancement Project (SOCRE Project) in the 2010-2011 transmission planning process, no stakeholder has raised concerns regarding the SOCRE Project or the identified reliability issues in the South Orange County area. Mr. Millar also explained the CAISO's development of renewable portfolios and study assumptions for the 2010-2011 transmission planning process, noting that these portfolios and assumptions were developed with input from the Commission's Energy Division staff.

Mr. Millar and Mr. Chen provided information regarding the CAISO's power flow analysis for various alternatives to the SOCRE Project that would electrically interconnect the

San Diego Gas & Electric Company's (SDGE's) 138 kilovolt (kV) South Orange County transmission system with Southern California Edison Company's (SCE's) 230-kV transmission system. Mr. Millar explained the fundamental challenge associated with putting the 138-kV South Orange County system in parallel with the 230-kV system while maintaining existing transfer capacity on the 230-kV path connecting the Los Angeles and San Diego areas. Mr. Chen explained that Alternative J as presented in the Final Environmental Impact Report (FEIR) could reduce the transfer capability of the 230-kV system by up to 1000MW. Attachment A to this notice provides additional details regarding potential impacts on both northbound and southbound transfer capability of the 230-kV system that may be caused by Alternative J.

Mr. Pinjuv and Mr. Millar explained that the CAISO has consistently opposed any alternative that interconnects the SDG&E South Orange County system with the SCE 230-kV system. Mr. Pinjuv noted the CAISO's opposition to such alternatives as presented by intervenors in May 2015, Alternative J as presented in the Recirculated Draft Environmental Impact Report (RDEIR) and subsequent modifications to Alternative J presented by intervenors prior to and at hearings in this proceeding. Mr. Millar explained that the CAISO had to conduct separate power flow analyses for each alternative and modification thereto in order to determine whether such alternatives could meet reliability standards. In each case, the CAISO found significant reliability concerns with the alternatives presented in the FEIR and by intervenors. Mr. Chen further explained that these reliability concerns could not be addressed by a Special Protection System (SPS) because it would exceed the CAISO's Planning Standards governing the complexity of an SPS.¹ Mr. Millar and Mr. Chen also explained that Alternative J and similar alternatives would exacerbate reliability concerns on the SCE system, the consequences of which have not yet been fully vetted.

Mr. Millar and Mr. Chen also explained that alternatives to the SOCRE Project presented by Forest Residents Opposing New Transmission Lines (Frontlines) and the City of San Juan Capistrano (SJC) also failed to mitigate all reliability concerns. More detail was provided through Attachment A, included with this notice. Mr. Pinjuv explained that the CAISO's studies are based on deterministic analysis of contingency events required to be studied by the North

¹ Mr. Chen explained that the California ISO Planning Standards require that an SPS "should not be monitoring more than 4 system elements or variables." https://www.caiso.com/Documents/FinalISOPlanningStandards-April12015_v2.pdf, p. 10.

American Electric Reliability Corporation (NERC) and that CAISO's duty to mitigate identified reliability concerns is not based on the relative probability of such events.

The CAISO provided Attachment A at the meeting. No other materials were distributed.

Respectfully submitted

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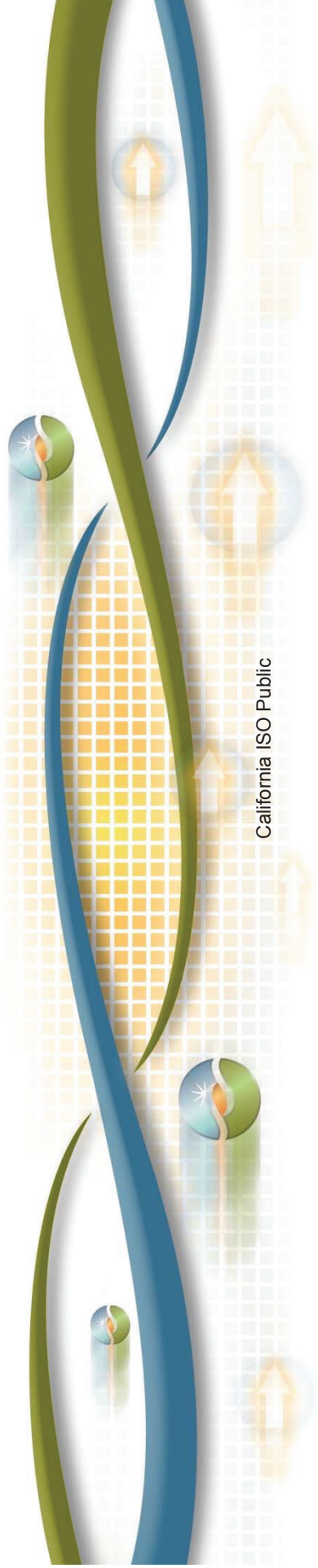
June 9, 2016

Attachment A



South Orange County Reliability Enhancement (SOCRE) Project

May 2016



California ISO Public

F-EIR Analysis did not address concerns regarding reduced northbound transfer capability

In the northbound direction on “Path 43” north of SONGS:

- The existing transfer capability of this path has been established as 2440 MW
- Historical flows on this path over the last two years have already exceeded 1000 MW on numerous occasions and was up to approximately 1500 MW on one occasion.
- F-EIR analysis looked at a maximum flows of 599 MW (Appendix R, R-1)
- CAISO identified a 1000 MW reduction in transfer capability (below 1470 MW) caused by the Trabuco alternative (On Page 338 of SOCRE TranscriptA1205020_111215_EH_VOL3)

F-EIR Analysis did not address concerns regarding reduced southbound transfer capability

In the southbound direction on “Path 44” south of SONGS:

- The existing transfer capability of this path has been established as 2200 MW.
- F-EIR analysis did not look at a southbound flow scenario (Appendix R, R-2)
- CAISO identified a reduction in transfer capability (below 1600 MW) caused by the Alternatives C1/C2 and D, SCE 230 kV loop-in alternatives similar to the Trabuco alternative. **CAISO testimony** (Sparks pages 16-18)



Transfer capability reductions have the potential to impact reliability and renewable delivery use of the system

- With large amounts of intermittent generation serving over 50% to 75% of the load in California at times and relying on regional integration to reliably and economically operate the system and manage localized resource variations it is expected that existing transmission facilities will be more heavily utilized.
- Gas supply interruptions such as the Aliso Canyon outage or pipeline outages increase the need for both northbound and southbound flows



CAISO identified the needs to address the transfer capability reduction that make Alternative J a less cost-effective alternative to the SOCRE project

- CAISO evaluated a SPS as mitigation to address the transfer capability reduction but deemed it infeasible as it requires a complex SPS that does not meet the CAISO Planning Standards (Pages 336~341 of SOCRE Transcript A1205020_111215_EH_VOL3 and CAISO Analysis of Transfer Limit Impact on the SONGS Path With Alternative J)
- At least 7 additional reliability upgrades in the SOC 138 kV system were identified to mitigate the negative impact caused by Alternative J CAISO Supplemental Rebuttal Testimony (Sparks pages 5~7)
- Alternative J will exacerbate the need to upgrade the SCE owned Ellis-Santiago and Ellis-Johanna 220 kV lines or increase the need for preferred resources in the area CAISO Supplemental Rebuttal Testimony (Sparks page 6)



Frontlines' reconductoring alternative is inadequate and not cost-effective when compared to the SOCR project, as it

- **is inadequate to address the two Category D reliability concerns** CAISO testimony (Sparks Table 3)
- **does not address the inadequate equipment issue at the Capistrano Substation** CAISO testimony (Sparks page 16)
- **does not mitigate the reliability issue associated with the inadequate separation between transformers at the Talega Substation** CAISO testimony (Sparks page 16)
- **is not feasible to rebuild and expand the Talega substation without building costly temporary facilities during the construction** CAISO testimony (Sparks page 16)

The City of San Juan Capistrano claimed that **modified** Alternative F will address the reliability objectives of the SOCRE Project

- Alternative F proposes to build a new 230 kV line and upgrade Rancho Mission Viejo Substation. **The City modified Alternative F by reconfiguring the Talega-Rancho Mission Viejo and the Talega-Pico 138 kV lines as a three terminal line**
- The city claimed that this project addresses the concerns with **modified** Alternative F identified by the ISO because the NERC/WECC reliability standards* allow load shedding for Category C contingencies

* The NERC/WECC reliability standards provided to the CPUC by The City on April 20, 2016 via e-mail have been superseded by NERC Planning Standard TPL 001-4 and NERC Operating Standards.


Modified Alternative F would result in the need for a complex load dropping scheme that would not meet the ISO Planning Standard

- The ISO analysis on **the City's modified** Alternative F identified six contingencies that would require load dropping ISO Rebuttal Testimony (Sparks Pages 4-7)
- Although load dropping via Special Protection Schemes (SPS) is allowed by NERC Planning Standards the SPS needs to be designed with the following in mind:
 - Risk of failure and of inadvertent activation
 - risk of interacting with other SPS in unintended ways
 - increased management, maintenance, coordination requirements, and analysis complexity
- The ISO Planning Standards include guidelines for SPS design and **the modified** Alternative F would not meet



BACKGROUND SLIDES





SOCRE Project need was assessed in the 2010-2011 ISO Transmission Planning Process.

- Open stakeholder process
- Study assumptions were discussed with stakeholders during a public meeting on February 12, 2010
- Technical study results were posted for stakeholder review on September 10, 2010
- Study results were discussed with stakeholders on October 26 and 27, 2010
- Draft report was provided to stakeholders for comment
- ISO Board approved the project on May 18, 2011
- May 18, 2012 - CPCN Application filed



SOCRE project is needed to meet the planning standards

- 26 contingency overloads within the planning horizon
- 7 contingency overloads in the near term
- 29 contingencies resulting in loss of service to all south Orange County load during maintenance conditions in the near term
- All of these conditions must be mitigated to meet the mandatory reliability planning standards
- SOCRE mitigates all of these deficiencies



SOCRE Project Scope

- SOCRE project primarily consists of:
- Replacing an existing 8 mile 138 kV transmission line with a new 230 kV double-circuit line between Capistrano and Talega substations in south Orange County
- Replacing the Capistrano 138 kV substation which is at the end of its life with a new 230 kV and 138 kV gas insulated substation
- ISO's and SDG&E's testimony have more detail



Alternatives do not mitigate all of the problems or create new problems

- Upgrading the 138 kV network costs almost as much as SOCRE and does not address the reliability problems during maintenance conditions
- Connecting the south Orange County system to the SCE 230 kV system degrades the ability to transfer power between the Los Angeles Basin and San Diego areas
- The ISO's and SDG&E's testimony provides more detail on the alternatives considered