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)

REPLY COMMENTS OF THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION ON THE REVISED PROPOSED DECISION AND REVISED ALTERNATE PROPOSED DECISION

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I. Introduction

Pursuant to the Rule 14.3(d) of the California Public Utilities Commission (Commission) Rules of Practice and Procedure, the California Independent System Operator Corporation (CAISO) files these reply comments on the Revised Proposed Decision (Revised PD) and the Revised Alternate Proposed Decision (Revised APD) on San Diego Gas & Electric Company's (SDG&E) request for a certificate of public convenience and necessity (CPCN) for the South Orange County Reliability Enhancement (SOCRE) Project. The CAISO replies to the opening comments submitted by the City of San Juan Capistrano (SJC), Forest Residents Opposing New Transmission Lines (Frontlines), and the Office of Ratepayer Advocates (ORA) (collectively referred to as intervenors).

II. Discussion

Intervenors' arguments center around four major claims:

- The SOCRE Project does not improve reliability (or actually decreases reliability) in South Orange County;
- The South Orange County transmission system is not subject to North American Electric Reliability Corporation (NERC) and CAISO Planning Standards;
- NERC and CAISO Planning Standards do not support the need for a project; and
- If a project is necessary, Alternative J can meet reliability needs.

The CAISO addresses each of these claims in detail below.

A. SOCRE Project Demonstrably Improves Reliability.

The SOCRE Project provides a new 230/138 kV substation in South Orange County. Despite intervenors' claims to the contrary, this new substation provides a new and distinct power source to serve the South Orange County load. The SOCRE Project mitigates all 83 CAISO-identified Category B and C reliability issues in South Orange County.[1] Despite these obvious improvements in reliability,

[1] Exhibit CAISO-502, p. 4-9.

Frontlines and ORA argue that the SOCRE Project *reduces* service reliability, primarily on the basis that SOCRE "concentrates all the 230 kV lines which serve South Orange County load into a single location adjacent to the Talega Substation" thereby "creat[ing] a transmission node which is susceptible to the same failure mode that Talega Substation is susceptible to."[2] This claim is not accurate. The SOCRE Project does not "concentrate" the 230 kV lines serving South Orange County because it does not move any of the three 230 kV lines currently serving South Orange County.[3] Instead, those lines will remain in the same configuration as they are today, but two of the lines will also extend to the new 230 kV San Juan Capistrano Substation.

Establishing a new 230/138 kV substation within South Orange County is critical to delivering the SOCRE Project's reliability benefits. Frontlines and ORA disregard the benefit provided by the new ***substation*** because the ***transmission line*** configuration will not be modified in the Talega corridor. However, the loss of the Talega Substation (or equipment at the Talega Substation during maintenance) causes the potential for uncontrolled load loss in South Orange County.[4] Unlike the loss of transmission lines, loss of a substation would cause potential long-term outages due to the time required to repair and replace equipment. A compromised transmission line can typically be placed back in service within days or hours, through repair or use of temporary structures. In contrast, a compromised substation may be out of service for weeks or months if key infrastructure is damaged. The second 230/138 kV substation provided by the SOCRE Project is necessary to mitigate reliability issues related to maintenance outages or the complete loss of the Talega Substation.

B. The South Orange County System is Part of the Bulk Electric System and is Subject to NERC Transmission Planning Standards.

The CAISO addressed this issue in detail in its opening comments,[5] but provides additional detail regarding the Bulk Electrical System (BES) classification of the South Orange County system and the process by which elements may be declassified as the BES. Federal Energy Regulatory Commission (FERC) Order No. 773[6] defines the scope of the BES and provides a process by which transmission owners or operators may request to exclude specific transmission elements greater than 100 kV from the

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[2] Tr. at 1494:19-22.
[3] The CAISO also notes NERC TPL-001-4 does not required transmission planners to study loss of adjacent circuits in a common right of way for 1 mile or less, even as an "extreme event" contingency. See TPL-001-4, p. 12, note 11.
[4] Exhibit CAISO-502, p. 6-7 (maintenance outages followed by contingencies at Talega Substation result in load loss).
[5] CAISO Opening Comments on the Revised PD and Revised APD, p. 8-11. http://www.caiso.com/Documents/Dec5_2016_OpeningComments_RevisedProposed_RevisedAlternateProposedDecision_SOCRE_A12-05-020.pdf
[6] *Revisions to Electric Reliability Organization Definition of Bulk Electric System and Rules of Procedure,* 141 FERC ¶ 61,236 (2012).

from the BES based on specific conditions. In Order No. 773, FERC specifically noted that an entity is obligated to inform NERC and Western Electricity Coordinating Council (WECC) regarding a determination that it was excluding an element of the transmission system from the definition of BES if the element was considered part of the BES prior to Order No. 773 or by the bright line criterion established by Order No. 773.[7] As a result, the owner or operator must submit a determination that the South Orange County transmission system is a local network and not part of the BES to WECC and NERC for review and concurrence.

Prior to adopting the new definition of BES in Order 773, FERC and NERC defined BES as "the electrical generation resources, transmission lines, interconnections with neighboring systems, and associated equipment, generally operated at voltages of 100 kV or higher. Radial transmission facilities serving only load with one transmission source are generally not included in this definition."[8] The South Orange County transmission system clearly fell within and continues to fall within the BES definition because it was operated above the 100 kV bright line threshold and was physically connected to the 230 kV high voltage transmission system through multiple 138 kV lines (*i.e.*, South Orange County is not "radially" served).[9] Because it was considered part of the BES prior to implementation of Order No. 773, the South Orange County transmission network continues be part of the BES unless the CAISO or SDG&E request to exclude it.

In Order No. 773, FERC determined that registered entities[10] "were obligated to inform the Regional Entity [WECC] of any self-determination that an element is no longer part of the bulk electric system" and that NERC is required to maintain a list of those elements excluded from the BES.[11] FERC stated:

> We agree with NERC that registered entities are obligated to inform the Regional Entity of any self-determination that an element is no longer part of the bulk electric system... Thus, a **registered entity that concludes that an element is no longer part of the bulk electric system must notify the Regional Entity of such change**… Regardless of past practice, we find that such notification is a necessary feature of the changes being

[7] Order No. 773, 141 FERC Stats. & Regs. ¶ 61,236 at P 317. ("We agree with NERC that registered entities are obligated to inform the Regional Entity of any self-determination that an element is no longer part of the bulk electric system.")
[8] Order No. 693, FERC Stats. & Regs. ¶ 31,242 at P 75 n.47 (quoting NERC's definition of "bulk electric system"). The Western Electric Coordinating Council (WECC) "use[d] the NERC definition alone in its implementation of Regional Entity activities." (Order No. 743, FERC Stats. & Regs. ¶ 61,150 at P 8, n. 17).
[9] Pursuant to discretion provided under the prior rules, WECC also included radially served transmission lines within the definition of BES where a backup feed was possible, but normally open. (Order No. 743, 133 FERC Stats. & Regs. ¶ 61,150 at P 48).
[10] All bulk power system owners, operators and users are required to register with NERC as "registered entities." http://www.nerc.com/pa/comp/Pages/Registration-and-Certification.aspx.
[11] http://www.nerc.com/pa/RAPA/BES%20DL/BES%20Notification%20Review%20Guideline%202-4-14%20REMG%20App.pdf, p. 1.

implemented by NERC... Further, **the revised definition allows entities the discretion to "declassify" certain facilities as part of the bulk electric system, and NERC, Regional Entities and the Commission need notification of such instances to assure that the entities are appropriately implementing the revised definition**.[12]

Neither the CAISO nor SDG&E has requested that NERC exclude the South Orange County system from being part of the BES or applied to FERC for an exclusion. The CAISO has treated the South Orange County system as part of the BES since the CAISO assumed operational control over the facilities. Both the CAISO and SDG&E agree that the facts do not support such an exclusion, and any exclusion would be imprudent for purposes of maintaining reliability to South Orange County customers. As a result, these facilities unequivocally remain part of the BES and subject to mandatory NERC transmission planning standards.

C. The SOCRE Project is Necessary to Address NERC and CAISO Transmission Planning Standards.

Frontlines, ORA, and SJC all contend that no project is necessary to meet NERC or CAISO transmission planning standards. The CAISO provided detailed discussion regarding the potential NERC violations under maintenance conditions at Talega Substation in opening comments.[13] As noted previously, each of the four Category B contingency events identified by the CAISO results in non-consequential load loss, thereby violating NERC TPL-001-4. SJC contends that these Category B contingency events can be mitigated by conducting maintenance only during low load periods. However, SJC's assertion is based on the incorrect assumption that all load loss during maintenance events is consequential (and therefore allowable under NERC TPL-001-4). To the contrary, under the four Category B maintenance scenarios identified by the CAISO, all load loss is non-consequential and therefore not allowed under TPL-001-4. In two of the four events, there would be non-consequential loss of the entire South Orange County load. As a result, there are no hours in which SDG&E can safely conduct maintenance activities at the Talega Substation without the SOCRE Project.

ORA asserts that the CAISO need not consider maintenance outages at Talega Substation because TPL-001-4 only requires mitigation for "[k]nown outage(s) of generation or Transmission Facility(ies) with a duration of at least six months."[14] However, in approving TPL-001-4, FERC specifically directed NERC to modify this language "to address the concern that the six month threshold

[12] Order No. 773, 141 FERC Stats. & Regs. ¶ 61,236 at P 317 (emphasis added).
[13] CAISO Opening Comments on the Revised PD and Revised APD, p. 8-11.
[14] ORA Opening Comments on Revised Alternate Proposed Decision, p. 4.

could exclude planned maintenance outages of significant facilities from future planning assessments."[15] FERC noted that "planned maintenance outages of ***less than six months in duration*** may result in relevant impacts during one or both of the seasonal off-peak periods."[16] Based on FERC's direction to NERC, it is appropriate to include maintenance outage events in the CAISO's planning assessment.

D. Alternative J Does Not Meet Reliability Needs.

The CAISO previously addressed the infeasibility of Alternative J based on its significant limitations on operational flexibility on the 230 kV system that links the Los Angeles basin and San Diego.[17] Put succinctly, Alternative J significantly reduces the transfer capacity on the 230 kV system because it puts the weaker South Orange County 138 kV system in parallel. The 230 kV system can currently provide transfer capacity up to 2440 MW northbound and 2200 MW southbound. Based on evidence in the record, Alternative J would reduce northbound transfer capacity on the 230 kV corridor by approximately 1,000 MW, a 41% reduction. This would reduce the capability to a level that that the corridor has already experienced to date. Southbound transfer capacity would be reduced by 600 MW, representing a 27% reduction. Alternative J imprudently jeopardizes overall grid flexibility in an attempt to solve sub-regional reliability issues.

Intervenors submitted comments stating that these reliability concerns can be addressed using a special protection system (SPS). SJC asserted at the Final Oral Argument that a "simple" SPS can address these concerns.[18] However, an effective SPS would need to monitor at least five transmission system elements, thus exceeding the maximum number of elements that may be monitored under the CAISO Planning Standards, which were established to ensure the reliability of the SPS operation. Based on this information alone, an SPS is infeasible. The "simple" SPS described by SJC fails to address credible P7 N-2 (previously category C) contingencies and therefore does not meet the requirements of WECC's Remedial Action Scheme Design Guide. Further, overly simplifying monitoring can lead to SPS tripping of transmission elements when system conditions do not require tripping. Unnecessarily weakening the system in this way would put the CAISO at risk of non-compliance with NERC Standard TPL-001-4. Moreover, the SPS previously proposed by SJC and Frontlines to mitigate the single Trabuco transformer overload issue created by Alternative J would not be valid if the second Trabuco transformer is in service. With the addition of the second transformer, which would increase loop flow concerns, the SPS would not maintain reliability.

[15] FERC Order No. 786, 145 FERC Stats. & Regs. ¶ 61,051 at P 40.
[16] Id. at P 41.
[17] CAISO Opening Comments on Proposed Decision and Revised Proposed Decision, p. 5-9
[18] Tr. at 1513:20-23.

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Respectfully submitted,

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