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, October 24, 2016, CAISO personnel met with certain Commission advisors at the Commission's office in San Francisco to discuss San Diego Gas & Electric Company's (SDG&E) request for a certificate of public convenience and necessity for the South Orange County Reliability Enhancement (SOCRE) Project. Present for the CAISO were Neil Millar, Executive Director of Infrastructure Development; Delphine Hou, Manager – State Regulatory Affairs; Frank Chen, Senior Regional Transmission Engineer; and Jordan Pinjuv, Counsel. The CAISO conducted three separate meetings with (1) Leuwam Tesfai, Advisor to Commissioner Randolph; (2) Ehren Seybert, Advisor to Commissioner Peterman; and (3) Charlyn Hook and Matthew Tisdale, Advisors to Commissioner Florio. The meetings were initiated by the CAISO and were each approximately one half-hour in length. The CAISO generally noted its support for the Alternate Proposed Decision and its concerns with the Proposed Decision's approval of Alternative J to the SOCRE Project. Both oral and written communications were presented at the meetings.

During the meeting, the CAISO noted its opposition to the Proposed Decision's approval of Alternative J. The CAISO expressed concern that the Proposed Decision does not specify which Alternative J electrical configuration it approves, but rather

directs SDG&E to conduct additional analysis to develop a version that satisfies reliability requirements. The CAISO noted that none of the versions of Alternative J presented in this proceeding satisfy reliability requirements and all versions negatively impact transfer capability on the 230 kilovolt (kV) transmission system between San Diego and the Los Angeles Basin.

The CAISO explained its initial needs determination for the SOCRE Project in the 2010 - 2011 transmission planning process. The CAISO noted that it identified up to 44 contingencies that required mitigation in its initial analysis. Updated analysis for this proceeding, based on the most up-to-date load forecast at the time, indicate 26 remaining contingencies that require mitigation. The CAISO also noted that the load forecast is irrelevant to the need to perform necessary equipment maintenance without jeopardizing reliability. Based on these results, the CAISO concluded that discrepancies in the load forecast and load growth are not relevant to whether there is a continuing need for the SOCRE Project. The CAISO further noted that the SOCRE Project is needed now, based on current load levels, to ensure system reliability.

The CAISO explained that Alternative J results in unmitigated negative impacts on both the South Orange County 138 kV system and the Southern California Edison Company (SCE) 220/230 kV transmission system. The CAISO noted that these impacts were studied by the CAISO and introduced as evidence in this proceeding; and that no party provided electrical power flow modeling that contradicted the CAISO's analysis. The CAISO indicated that it studied six different versions of Alternative J and that none of the versions resolved all reliability issues without creating additional, unmitigated concerns.

Mr. Millar explained that the South Orange County system impacts are created because Alternative J parallels the weaker 138 kV South Orange County system with the 220/230 kV corridor connecting the Los Angeles Basin and the San Diego area. The CAISO noted that this paralleling results in system overloads in the South Orange County system that cannot be mitigated by a special protection system (SPS) within the CAISO Planning Standards. The CAISO noted that five specific overloads identified in the record are unmitigated even with the least flawed variation to Alternative J. The CAISO further noted that paralleling the South Orange County 138 kV system results in a 1000

MW reduction in transfer capacity on the northbound flow on the 230 kV system and a 600 MW reduction in southbound transfer capacity. The CAISO noted that the reduction in northbound flow would reduce transfer capacity below levels that have already been experienced.

The CAISO explained that SCE's transmission is also affected by Alternative J. Specifically, Alternative J exacerbates existing reliability issues in the SCE system and will require 100 MW of incremental generation or storage resources to address the effects of Alternative J.

The CAISO noted that an SPS to address the reliability issues created by Alternative J would not be feasible based on the CAISO Planning Standards. Specifically, the CAISO noted that the "simple SPS" solution recommended by the City of San Juan Capistrano would potentially cause load shedding under conditions with a single-element out of service and could cause cascading events in the South Orange County area, thereby violating CAISO Planning Standards. The CAISO also noted that the proposed SPS does not address P7 contingencies resulting from the loss of common structure that supports the two transmission lines connecting the San Onofre switchyard and the Santiago substation.

The CAISO noted that in comparing the costs of Alternative J to the SOCRE Project, the Proposed Decision fails to take into account the costs to rebuild the Capistrano substation in the costs of Alternative J. The Capistrano substation will need to be rebuilt no matter what alternative the Commission approves and should be accounted for as a cost irrespective of whether Alternative J or the SOCRE Project is approved.

The CAISO concurred with SDG&E's assessment that the Trabuco substation footprint does not provide a feasible site to build a full 230/138 kV substation consistent with current safety and design standards.

From a procedural standpoint, the CAISO asserted that if the Commission approves the Proposed Decision it would need to be reviewed in the course of the CAISO's transmission planning process to identify all system impacts caused. This review would be required because Alternative J is electrically distinct from the CAISO-

approved transmission solution and because the Proposed Decision does not clearly identify which particular electrical configuration of Alternative J it adopts.

The CAISO provided additional written documentation provided as Attachment A.

Respectfully submitted,

By: /s/ Jordan Pinjuv

Roger E. Collanton
General Counsel
Anthony Ivancovich
Deputy General Counsel
Anna McKenna
Assistant General Counsel
Jordan Pinjuv
Counsel
California Independent System
Operator Corporation
250 Outcropping Way
Folsom, CA 95630
Tel.: (916) 351-4429
Fax: (916) 608-7222
jpinjuv@caiso.com

Attorneys for the California Independent
System Operator Corporation

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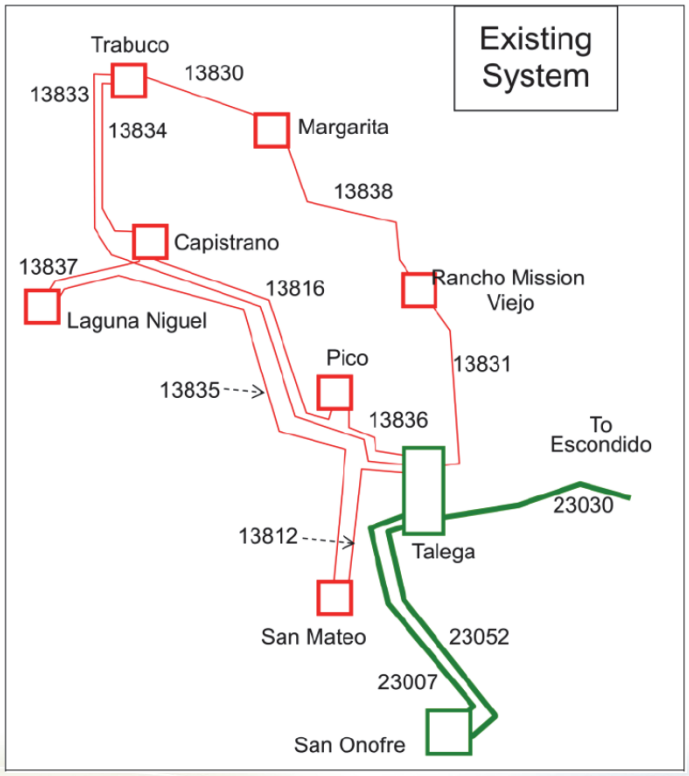
Attachment A

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

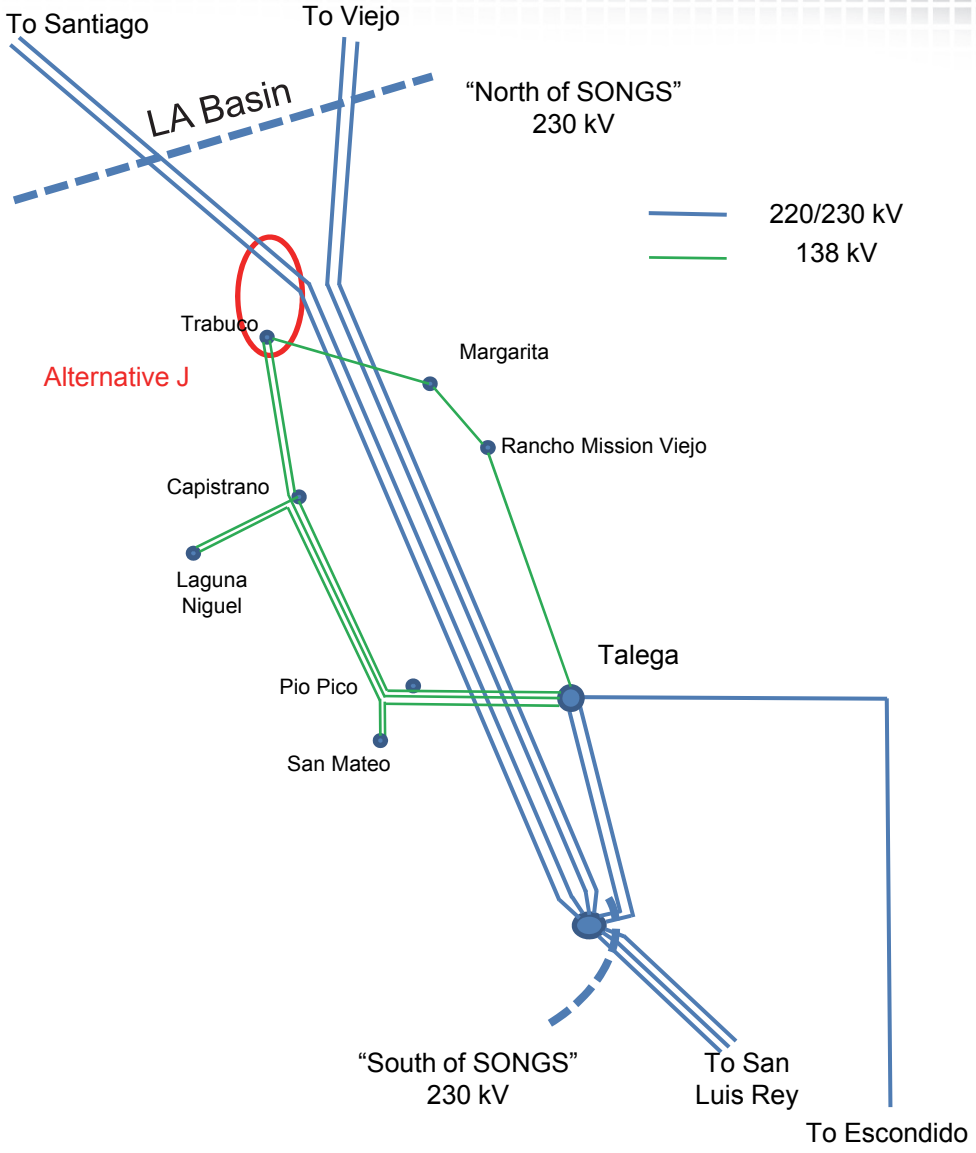


Alternative Proposed Decision's SOCRE Project Meets All Project Objectives and Complies with Mandatory Reliability Standards

- Addresses all reliability concerns identified based on NERC requirements and CAISO Planning Standards
- Enables SDG&E to perform necessary equipment maintenance without jeopardizing reliability
- Provides a second transmission source to the South Orange County transmission system
- Maintains the overall effectiveness and reliability of the SDG&E South Orange County and its adjacent SCE systems

Connecting the south Orange County system to the SCE 220 kV system weakens both the “north of SONGS” and “south of SONGS” 230 kV transmission corridors:

- Degrades the ability to transfer power between the Los Angeles Basin and San Diego areas
- Impacts ability to integrate renewable generation and manage unforeseen events like Aliso Canyon
- Northbound flows would be limited to levels 1000 MW below current ratings, to flows below levels that have already occurred
- Southbound flows would be reduced by over 600 MW from existing ratings



The Proposed Decision's Alternative J is Infeasible and Does Not Comply with Applicable Reliability Standards

- Alternative J creates "loop flow" concerns in the SDG&E South Orange County area, which reduces northbound and southbound transfer capabilities via the "north of SONGS" transmission path
- Alternative J exacerbates thermal overload concerns on SCE's Ellis-Santiago and Ellis-Johanna 220 kV lines for (N-1-1) contingencies
- ISO evaluated all variants of Alternative J proposed by FRONTLINES, ORA, and the City of San Juan Capistrano and concluded none mitigate the new issues created
- Alternative J would require additional system improvements to meet the project objectives, which would need to be fully identified in the ISO transmission planning process and cannot be addressed through Special Protection Systems (SPS)

To reiterate - the ISO supports President Picker's Alternate Proposed Decision:

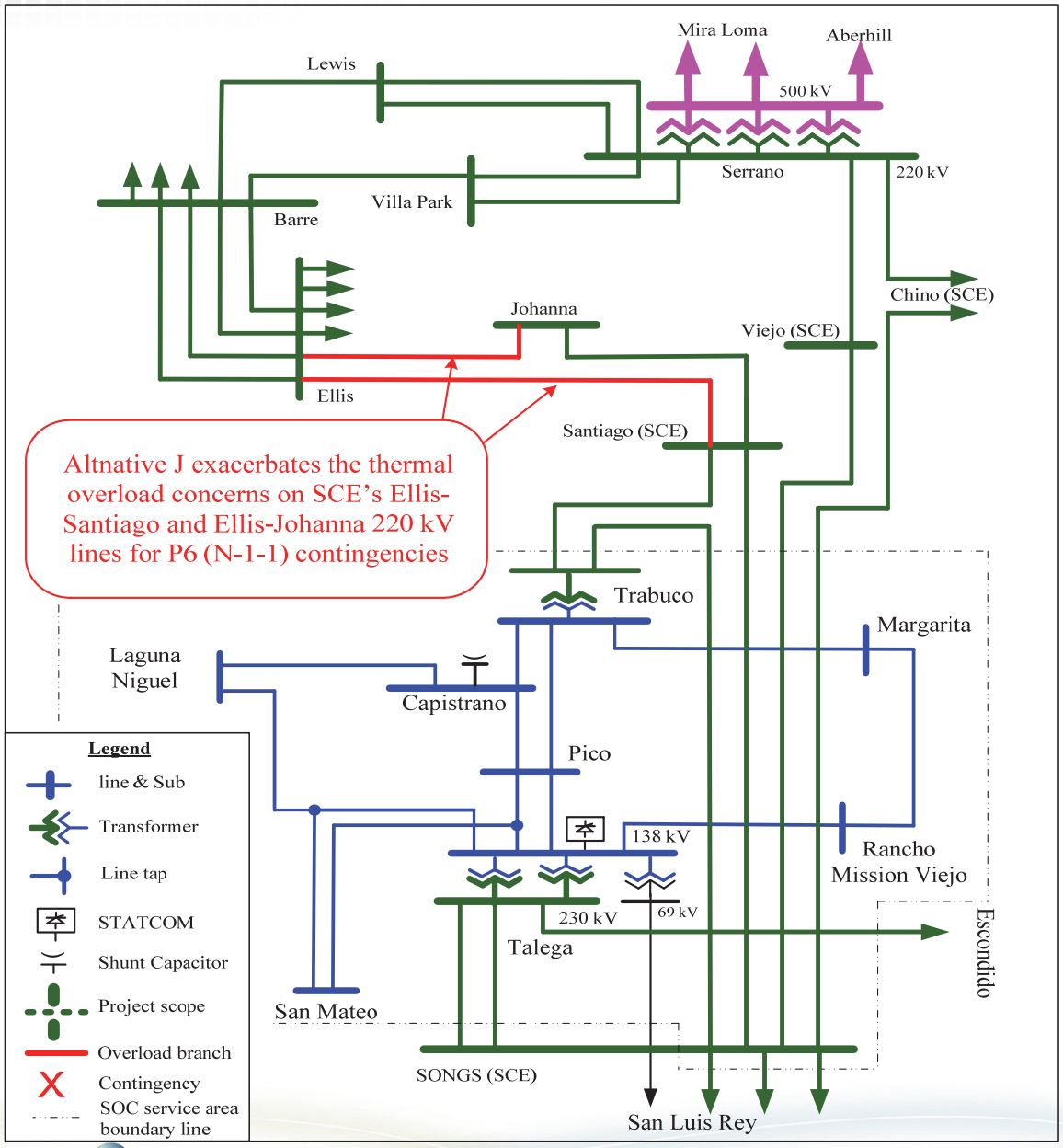
- The SOCRE project addresses all of the reliability needs identified in the area while avoiding new reliability issues.

- Alternative J promoted by the Proposed Decision creates new and unmitigated reliability issues regardless of which variation is ultimately considered.

BACKGROUND AND REFERENCE SLIDES

SOCRE project is needed to meet the planning standards and was coordinated with SDG&E's need for upgrades at the Capistrano substation:

- 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
- All of these conditions must be mitigated to meet the mandatory reliability planning standards
- SOCRE mitigates all of these deficiencies
- It also adds a second 230 kV source into the area, mitigating the loss of the Talega substation
- Leverages SDG&E's pre-existing need to upgrade the Capistrano substation



Alternative J exacerbates the thermal overload concerns on SCE's Ellis-Santiago and Ellis-Johanna 220 kV lines

Proposed Decision fails to address concerns regarding reduced northbound transfer capability

In the northbound direction on "Path 43" north of SONGS:

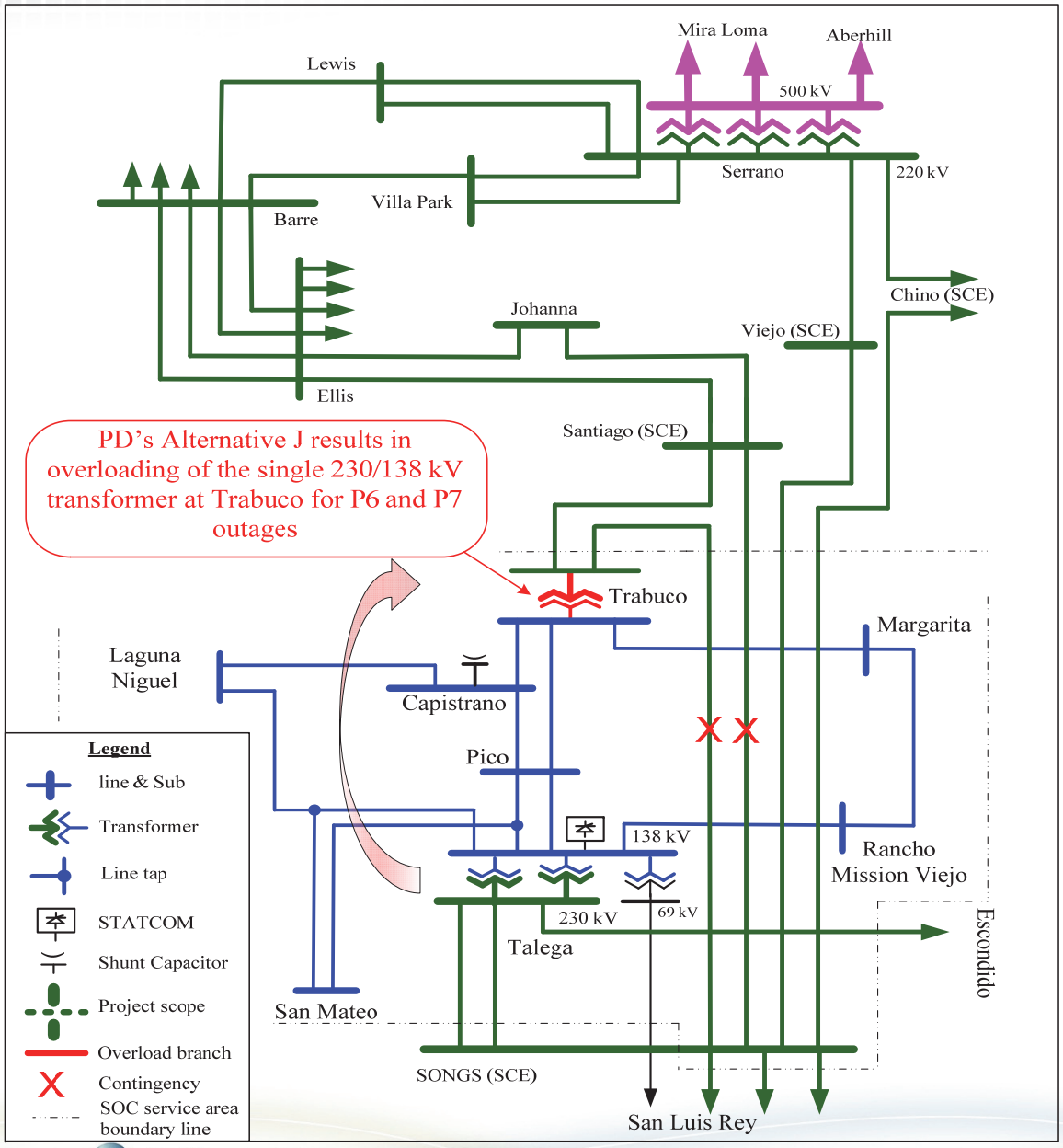
- The existing transfer capability of this path has been established as 2440 MW
- Historical flows on this path over the last two years have already exceeded 1000 MW on numerous occasions and was up to approximately 1500 MW on one occasion.
- F-EIR analysis looked at a maximum flows of 599 MW
  (Appendix R, R-1)
- CAISO identified a 1000 MW reduction in transfer capability (below 1470 MW) caused by PD's Alternative J
  (On Page 338 of SOCRE Transcript A1205020_111215_EH_VOL3)

Proposed Decision fails to 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 PD's Alternative J. (CAISO testimony Sparks pages 16-18)

Alternative J results in thermal overloading of the single 230/138 kV transformer in the Trabuco Substation

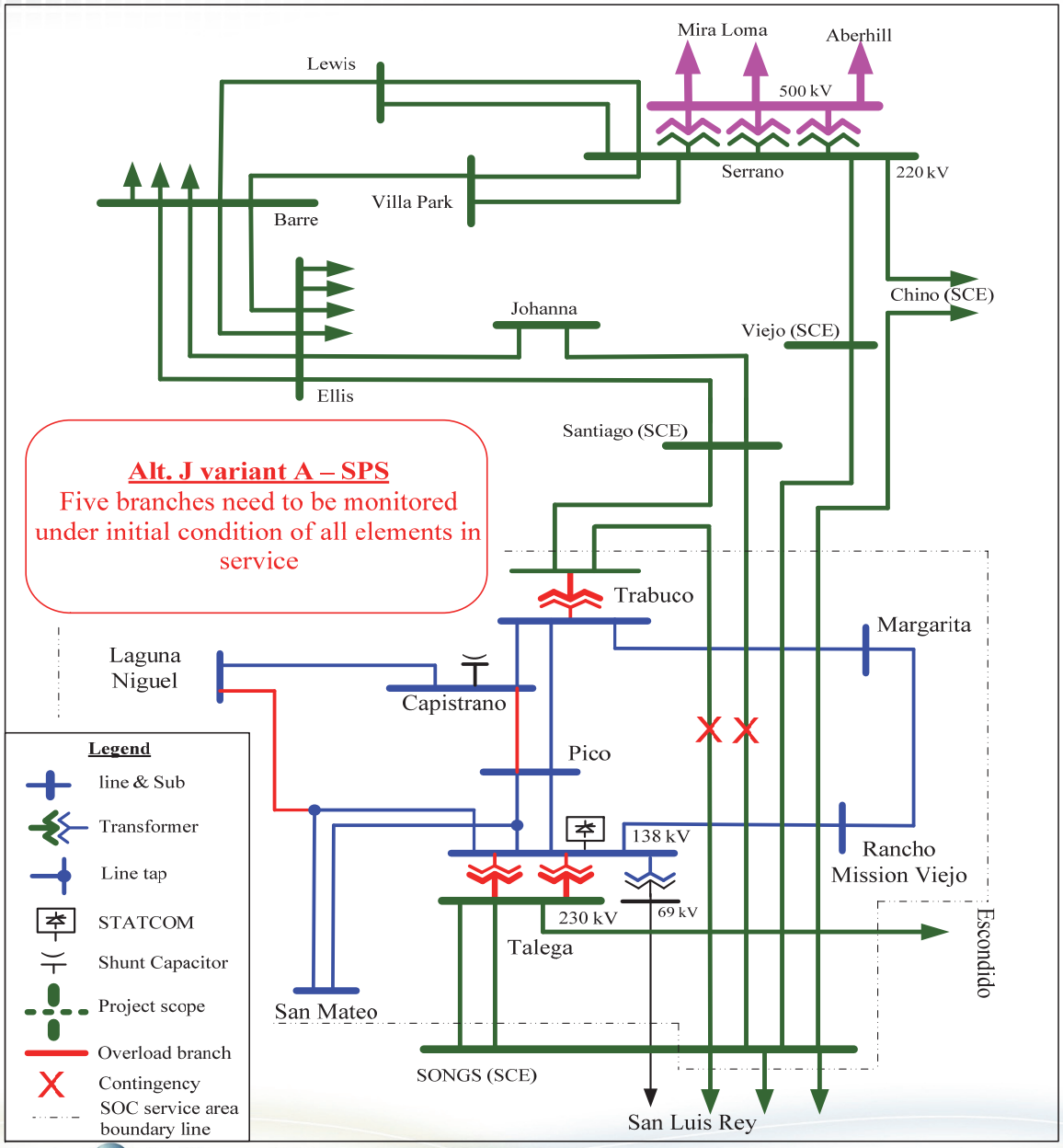


The ISO studied all different Alternative J variations proposed by FRONTLINES, ORA, and the City of San Juan Capistrano, which seek to address some reliability issues but create new issues. Even the least flawed variation - combining Variant A and Variant B - causes 5 potential overload conditions.

Below are three major variants discussed in the following slides (other variants appear abandoned by the proponents):

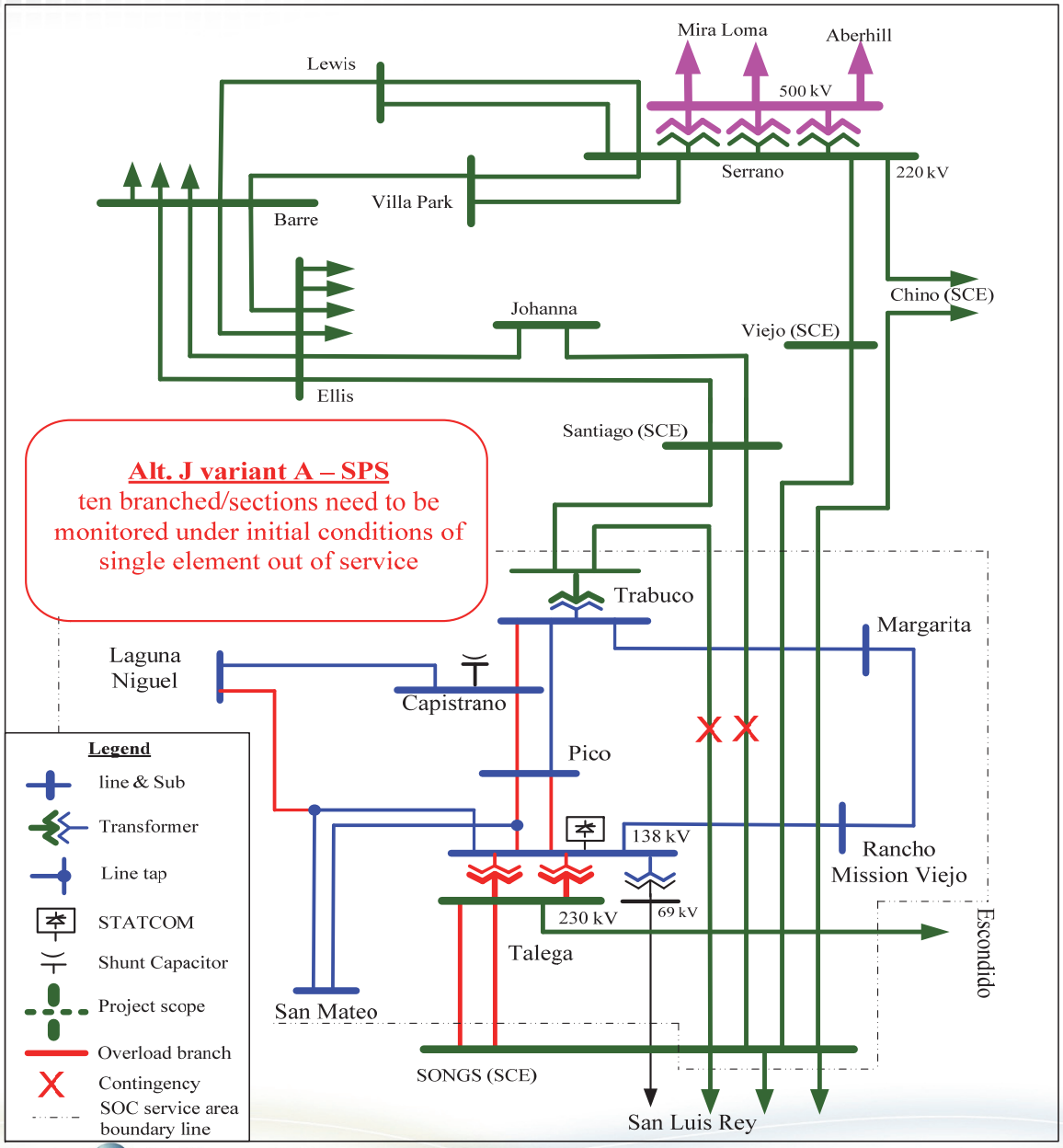
- Variant A to Alternative J – implementing a SPS solution
- Variant B to Alternative J – adding 2nd Trabuco transformer
- Variant C to Alternative J – "maintain one of the power supply sources as 'normal open'" (ORA comments on PD and APD page 7)

Variant A to Alternative J – SPS as a solution



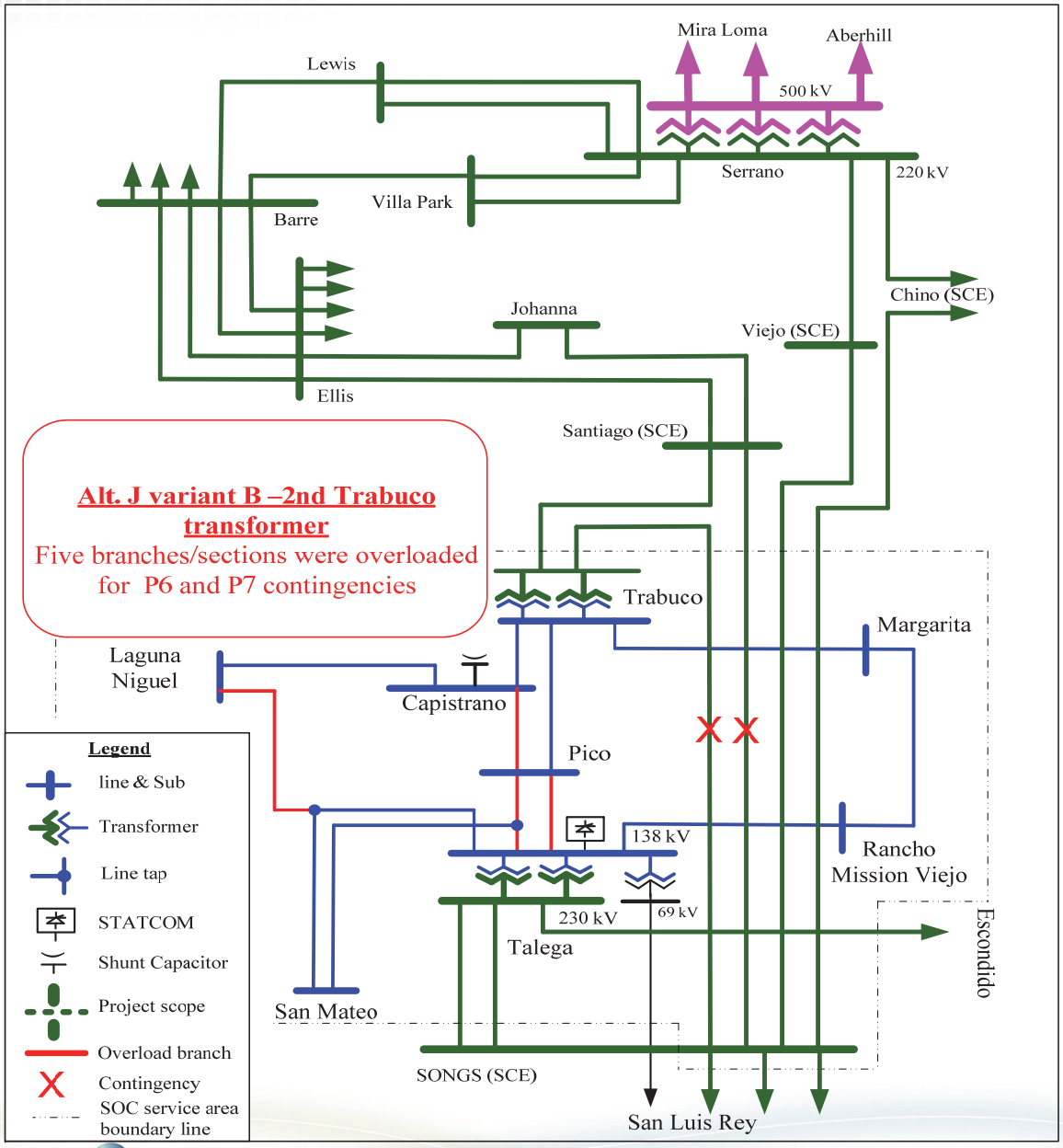
- Exceeds the parameters set out in the ISO Planning Standards that "SPS should not be monitoring more than 4 system elements or variables"

Variant A to Alternative J – SPS as solution

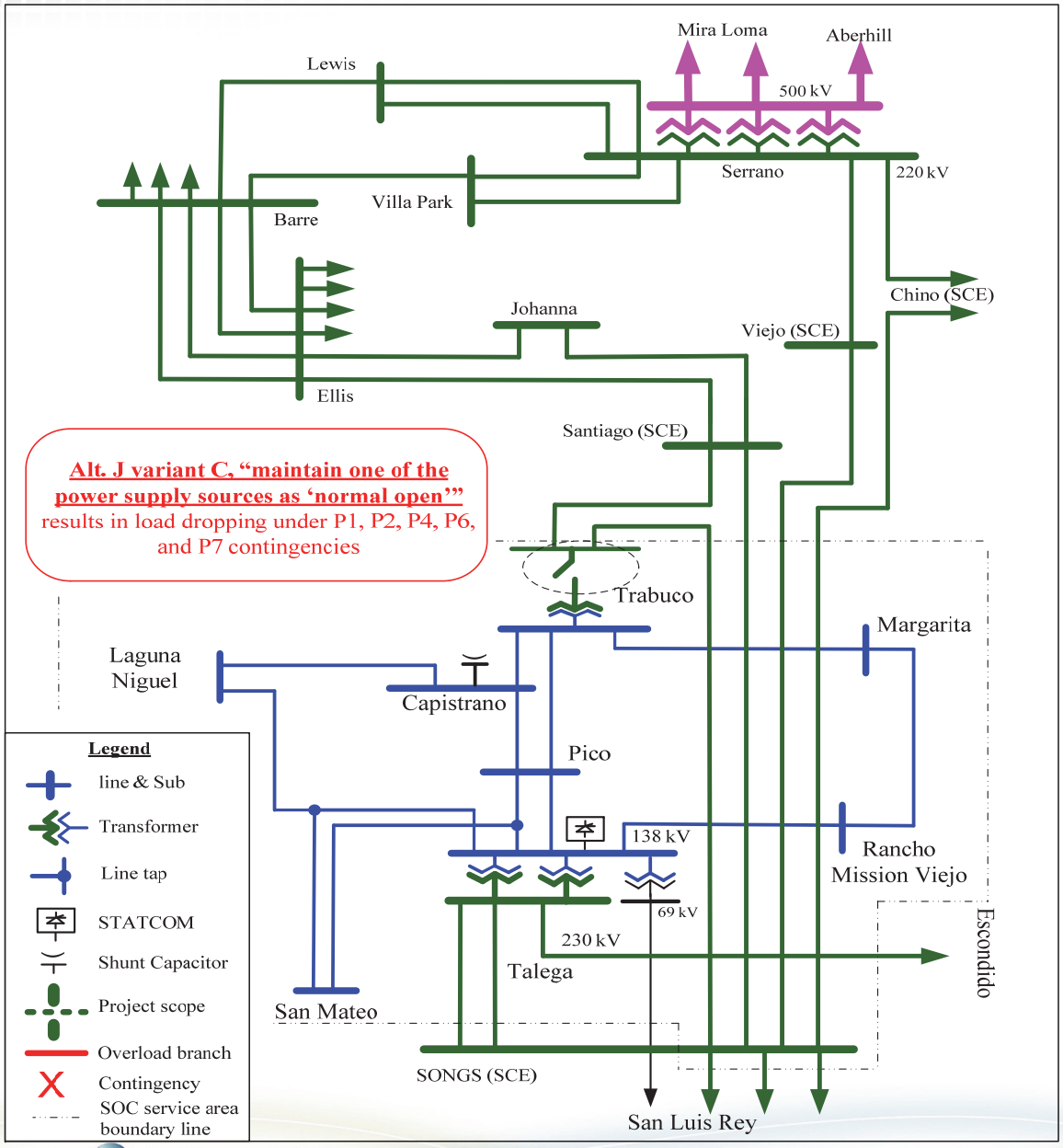


- Ten branches/sections need to be monitored under this scenario

Variant B of Alternative J – 2nd Trabuco transformer



Five branches/sections were overloaded for P6 and P7 contingencies under reasonable off-peak condition



Variant C to Alternative J – maintain one of the supply sources as "normal open"

It would modify the South Orange County in a way that would cause single and multiple contingencies (P1/P2/P4/P6/P7) resulting in load shedding - some of which do not exist today