

**Below page number references to printed slide number within 09/25 ISO presentation “San Diego Gas & Electric Area Preliminary Reliability Assessment Results” section.

1. CAISO presentation slide #6: the overloaded facility and associated contingency appears to be correct on the diagram but not accurate on the text description. SDG&E concurs with CAISO’s findings on the two overloaded facilities; with the identified need date for reconductoring Stuart Tap- Las Pulgas segment in 2015 and San Luis Rey-Oceanside Tap in 2016. Both segments are slated to be part of SDG&E’s “Wood-to-Steel” fire-hardening upgrade; SDG&E recommends CAISO approval of both as independent reliability projects which will ensure the project’s completion by the need date for the identified reliability compliance.
2. CAISO presentation slide #7: SDG&E concurs with CAISO’s findings and proposed mitigation on the overloaded facilities. The loop-in of the TL617 at Rose Canyon will eliminate a three-terminal line and provide additional reliability benefit and operation flexibility.
3. CAISO presentation slide #8: SDG&E currently has an SPS to trip Talega bank 50 for this overload. Reconductor can be an option to address this issue too.
4. CAISO presentation slide #10: SDG&E has also continues finding indications of loading excursions for TL6916 [Sycamore – Scripps]. SDG&E and CAISO operations have managed loading issues for TL6916 for several years. In years predating the peaker installations, the line from Scripps to Miramar would only occasionally be opened at Scripps pre-contingency to address potential for line loading violations. Presently, managing TL6916 loading has been accomplished principally from availability and reliance on the peakers located at Miramar, MEF #1 and/or #2. In addition, as part of the Sunrise project SDG&E successfully increased the rating of TL6916 to the present day limit of 164 MVA continuous and emergency limits. This line has now reached its maximum rating, barring a major upgrade that would require extensive rebuilding and possibly the acquisition of additional right of way, similar in scope to the proposed Sycamore-Miramar line (TL6942) that was rejected several years ago by the CPUC. In this TPP request window, SDG&E has proposed to add a third 230 kV circuit from Suncrest to Los Coches. Among all other benefits to the 230 kV systems, this line will better distribute power coming into the load basin at Sycamore 230 kV and offload the 69 KV network at or near Sycamore, thereby addressing the loading issue on TL6916.
5. CAISO presentation slide #11: SDG&E concurs with ISO that building a new Artesian 230/69 kV sub and loop-in TL23051 will not only address multiple system loading issues at Poway load pocket but also provide loading relief for the Sycamore Canyon 230/69 kV transformers. SDG&E does not support installation of an SPS to mitigate this particular contingency, and generally does not support SPS mitigation for non-credible N-2 or low-probability N-1-1 contingencies. SDG&E would support development of an operating procedure that would utilize short-term emergency ratings to allow manual load shedding

in the event of this contingency until the recommended mitigation (Artesian 230 kV) is in place.

6. CAISO presentation slide #12: SDG&E supports CAISO's proposal to add a class 70 (230/69 kV) transformer at Mission to fix loading issues on Bank 50 and 51 (138/69 kV). It will provide additional benefits of improving the voltage control at Mission, and eliminate the on-going circulating VARs caused by the two class-50 transformers that operate without TCUL tap changer capability. Again, SDG&E does not support installation of an SPS to mitigate this particular contingency, and generally does not support SPS mitigation for non-credible N-2 or low-probability N-1-1 contingencies. SDG&E would support development of an operating procedure that would utilize short-term emergency ratings to allow manual load shedding in the event of this contingency until the recommended mitigation (Mission 230/69 kV bank #2) is in place.
7. CAISO presentation slide #14: The voltage deviation identified is due to the simulated outage of TL6912 and radialized Pendleton 69 kV bus, therefore greater than 5% voltage drop post-contingency is acceptable. SDG&E recommends investigating the voltage deviations on a case-by-case basis and refrain from adopting higher Voltage Deviation criteria cross the board as a solution.
8. CAISO presentation slide #15: Note that the existing Encinitas capacitor banks (2 x 6 MVAR) may be undersized for the load served. Also the diagram shown does not include Del Mar reconfiguration, which is an approved CAISO project to loop in TL674 and RFS TL666D, with an ISD of 2015. SDG&E recommends review of the power flow case to ensure the correct system topology is in place.
9. CAISO presentation slide #17, Otay Mesa-TJI 230 kV overloads: CAISO suggests Post SONGS Transmission Plan will fix this issue. Depending on which "Post SONGS Transmission Plan" will be in place, it may help or may aggravate the TJI overloads. The problem is regional in nature and impacts other Balancing Authority Areas (BAA). As the balancing authority for SDG&E, the CAISO is ideally situated to coordinate study work with the two or three other affected BAA's (IID, CFE, and APS). In their presentation, CAISO suggests "Modify SPS to trip generation in IV prior to cross tripping TL23050 tie in the short term" but does not offer any analysis on how effective the generation tripping would be, or how much generation tripping would be required to mitigate the overloads, or for how long such a scheme would be effective. Given that this is a regional issue, and is significantly affected by generation dispatch and loading conditions in SCE, Arizona, IID, and CFE, SDG&E does not support limiting the mitigation of this regional issue only by tripping generation that is critical to serving San Diego load.

In this TPP request window, SDG&E proposed a Phase Shifting Transformer Flow Control device at IV. SDG&E believes there is sufficient justification in the current study work to approve this project as a short to medium term mitigation for system issues relating to the SONGS and other OTC retirements and the effective integration of Imperial Valley renewables. CAISO has inquired of SDG&E regarding the installation

of a “back-to-back DC link” at IV. SDG&E considers either type of the flow control device at Imperial Valley to be a more effective long-term fix than the generation tripping scheme. And given the fact that phase shifters can be installed within the existing IV fence line, it will provide intermediate time frame loading relief at the SDG&E-CFE ties, thus helping to bridge the many years near term to long term reliability exposure.

10. CAISO presentation slide #18, #21: These slides reflect the same regional issue as seen in slide #17. SDG&E proposed a Phase Shifting Transformer Flow Control device at IV and believes there is sufficient justification in the current study work to approve this project as a short to medium-term mitigation for system issues relating to the SONGS and other OTC retirements and the effective integration of Imperial Valley renewables. CAISO has inquired of SDG&E regarding installation of a “back-to-back DC link” at IV. SDG&E considers either type of flow control technology at Imperial Valley to be a more effective fix than the generation trip. Given that phase shifters can be installed within the existing IV fence line, it will provide intermediate time frame loading relief at SDG&E-IID ties. Note that since the IV-El Centro (S-Line) is an IID facility, it should be identified as a regional “seams” issue instead of an SDG&E area overload, and the project study work and coordination should be done at the balancing authority level.
11. CAISO presentation slide #19, Suncrest-Sycamore 230kV transmission overloads: SDG&E observed N-1 category B overloads on the same facilities, and identified an effective mitigation: adding a 3rd 230 kV outlet at Suncrest. The combination of the 3rd Suncrest 230 kV line coupled with the IV Flow Control is a better solution than SPS tripping of IV Generation as the problem can and will tend to grow over the long term. In this TPP request window, SDG&E proposed a project to build a SCR –LC 230KV line. SDG&E recommends that the CAISO consider the proposed SCR –LC 230KV line, along with the IV Flow Control, as part of “Post SONGS Transmission Plan”. These projects will function to bridge across the immediate term to long term resource gap created by the retirement of SONGS and OTC generation.
12. CAISO presentation slide #22: Mission-Old Town 230 kV transmission: SDG&E will re-evaluate potentially splitting TL23013 [PQ-OT] into two circuits.
13. CAISO presentation slide #20 and #24: Both mentioned the cross tripping of TL23050 (IV-ROA) as part of the contingency This appears as inconsistent with respect to slides #17 and #19 where the identified potential mitigation is “Modify SPS to trip IV generation prior to cross tripping TL23050”?
14. CAISO presentation slide #25: Listed “Post-SONGS Transmission Strengthen Plan” alternatives address MW solely. The CAISO presentation has identified several voltage stability issues under Category B events (Slide #23 and #24), however did not identify any real solutions. Within this TPP request window, SDG&E has proposed two Synchronous Condenser projects to address the voltage stability issues, and urges CAISO approve both projects to ensure SDG&E meets the WECC 2.5% and 5% reactive margin requirements by 2018.

15. CAISO presentation slide #26: 1st bullet suggesting relying on Energy Efficiency (EE) as alternative mitigation when it is already built into the model assumptions. As indicated in slide #2, CAISO embedded in the analysis the 375 MW of EE load in the base case; yet on slide #4 and #26 mentioned EE again but as a mitigation measure, raising the possibility that there may be a certain amount of ‘double-counting’ of energy efficiency resources.. Also, it’s not clear from the presentation if assumptions for other utilities have the EE load embedded as base case assumption or potential mitigation.
16. CAISO presentation slide #26, 2nd bullet: Suggests “Improve SDG&E 230 kV system in order to accommodate the “Post-SONGS Transmission Strengthen Plan”. SDG&E has proposed several 230 kV improvements which fully accommodate the Post SONGS TSP, such as Los Coches 230 kV & Suncrest-Los Coches 230 kV line, Phase Shifting Transformer Flow Control device at IV and Artesian 230 kV Expansion etc.

**Below page number references to printed slide number within 09/25 CAISO presentation “Determining an Effective Mix of Non-Conventional Solutions to Address Local Needs in the TPP” section.

1. CAISO presentation slide #7: Indicated 500 MW of DR in San Diego. Is that on top of 375 MW of EE for year 2023?
2. This section of the presentation appears to focus on the so-called “SONGS study area” which encompasses a portion of SCE service territory and majority of SDG&E’s service territory. It’s not clear if the same level of DR/ DG assumption has been uniformly applied to other part of the CAISO BAA?

**Below discussion references to 09/26 SDG&E project presentation at the stakeholder meeting:

1. SDG&E proposed a comprehensive “Metro Area rebuild” during the 2012/2013 planning cycle but was turned down by CAISO. SDG&E again proposed a minimized version of TL623C and TL649D reconductor this year, strictly based on the Category B contingency overloads on these two lines. Some generation owners offered comments during SDG&E’s presentation urging CAISO’s approval of the comprehensive “Metro Area rebuild” to facilitate generation dispatch and enable future generation interconnection in this area. SDG&E echoes this suggestion, and recommends that CAISO reconsider and approve the “Metro Area rebuild plan”, or at the very minimum approves the TL623C and TL649D reconductor projects.