

SDG&E Comments on the Sept. 20-21, 2018 CAISO Stakeholder Meeting

Presentation: SDG&E Main System Preliminary Reliability Assessment Results

Slide 10 (Potential Mitigation Solutions Summary)

SDG&E is concerned that adding more operating procedures and relying on short-term emergency ratings as mitigation for BES overloads will contribute to the loss of life of our critical transmission assets. Secondly, we are seeing a high proliferation of operating procedures which makes operating the system more difficult and complex for the Grid Operations teams at SDG&E and the CAISO.

Slide 13 (No. 1 – Talega – San Onofre 230kV Line)

SDG&E agrees that reducing the reactive power output of the synchronous condensers at Talega within the 30-minute window would resolve this P6 contingency.

Slide 14 (No. 2 – Encina – San Luis Rey 230kV Path)

SDG&E will be taking a closer look at reducing northbound flow following the 1st contingency and if it is acceptable to our Grid Operations team. We believe a solution to this issue would be the “Southern California LCR Reduction” project.

Slide 15 (No. 3 – Silvergate – Old Town 230kV Path)

SDG&E concurs that re-dispatch of Otay Mesa generation would mitigate this P6 contingency.

Slide 16 (No. 4 – Miguel BK80 and BK81)

SDG&E believes that it would be challenging to apply the following after the 2nd contingency:

1. Redispatch generation at Imperial Valley
2. Adjust the Imperial Valley phase shifters
3. Procure PR and ES up to 300MW in the San Diego area

SDG&E recommends installing a 3rd bank at Miguel as we had presented in the 2015 cycle. A sudden failure of these units would be highly detrimental to our system because of the substantial lead time required to install a replacement.

Slide 17 (No. 5 – Suncrest BK80 and BK81)

SDG&E believes that it would be challenging to apply the following after the 2nd contingency:

1. Redispatch generation at Imperial Valley
2. Adjust the Imperial Valley phase shifters
3. Procure PR and ES up to 300MW in the San Diego area

SDG&E will take a closer look at mitigating this contingency.

Slide 18 (No. 6 – Suncrest – Sycamore 230kV Path)

SDG&E will take a closer look at mitigating this overload, especially for the P1 violation.

Note that SDG&E has presented several options for mitigating overloads on the 230 kV system west of Suncrest substation in previous iterations of the TPP. It is SDG&E's philosophy that reliance on SPS and RAS scheme to address issues on the transmission system that are permanent and likely to worsen over time is acceptable only in the short term. Permanent system constraints and persistent adverse operating conditions should be addressed with permanent solutions. In addition, as the number of RAS and SPS schemes proliferate, the risk of unintended consequences due to an unforeseen interaction increases, so the CAISO should strive to minimize the addition of new RAS schemes and eliminate existing ones where feasible and cost-effective.

Slide 19 (No. 7 – Suncrest 500kV Bus)

SDG&E will work with the CAISO in determining how a coordinated control scheme among the reactive power support facilities would reduce the high voltage.

Slide 20 (No. 8 – IID S-Line 230kV tie line)

SDG&E concurs that this would be an adequate mitigation until the S-Line upgrade takes place.

Presentation: San Diego Gas & Electric Area Sub-Transmission Preliminary Reliability Assessment Results

Slide 5 (Borrego Area P1 Contingency Thermal Overload)

SDG&E concurs that this would be an adequate mitigation for the P1 thermal overload.

Slide 7 (Avocado Area P1/P2.1 Contingency Thermal Overload)

SDG&E agrees with the CAISO's proposed mitigation for these P1/P2.1 violations.

Presentation: Consideration of Storage as a Transmission Asset in the 2018-2019 Transmission Planning Cycle

SDG&E appreciates that the CAISO has taken time to present and clarify how storage as a transmission asset (SATA) will be considered in this planning cycle. We have been actively looking at SATA alternatives for our proposed projects. We will continue to work with the CAISO and various stakeholders and will participate in and monitor this initiative closely.

Presentation: 2028 Long-Term LCR Study Draft Results LA Basin and San Diego-Imperial Valley Areas

Slide 14

SDG&E will look more into the CAISO's thermal loading concern on the remaining Sycamore-Suncrest 230kV line, in order to develop a proposed mitigation for this limiting facility.

Presentation: 2028 Long-Term LCR Study Draft Results San Diego-Imperial Valley Non-Bulk Subareas

Slide 8 (El Cajon Subarea LCR)

SDG&E has studied this subarea and we are proposing an upgrade of TL631 to a minimum continuous rating of 77MVA. This project will mitigate the LCR requirement in this subarea. For more information on our proposal, please see our presentation and supporting documents on: "El Cajon Subarea LCR Reduction".

Slide 11 (Esco Subarea LCR)

During the stakeholder meeting, SDG&E asked why all three Palomar units are on-line in the 2028 LCR case but only one unit is on-line in the 2023 LCR study. SDG&E is proposing a second 230/69 kV transformer bank at Artesian. This would mitigate the LCR requirement in the subarea. For more information on our proposed project, please see our presentation and supporting documents on: "ESCO Sub Area LCR Reduction".

Slide 14 (Pala Subarea LCR)

SDG&E has studied this subarea and we are proposing an upgrade of TL694A to a minimum continuous rating of 127MVA and TL694B to a minimum continuous rating of 114MVA. This project will mitigate the LCR requirement in this subarea. For more information on our proposal, please see our presentation and supporting documents on: "Pala Subarea LCR Reduction".

Slide 17 (Border Subarea LCR)

SDG&E has studied this subarea and we are proposing an upgrade of TL647 to a minimum continuous rating of 110MVA. This project will mitigate the LCR requirement in this subarea. For more information on our proposal, please see our presentation and supporting documents on: "Border Subarea LCR Reduction".