



December 27th, 2012

Submitted by email to the CAISO at regionaltransmission@caiso.com

RE: Comments of the Large-scale Solar Association on 2012-2013 Transmission Planning Process meeting on December 11th-12th

The Large-scale Solar Association (LSA) hereby submits these comments about the posted documents, presentations, and related discussion at the December 11th-12th meeting for the CAISO's 2012-2013 Transmission Planning Process (TPP). These activities included preliminary identification of the Policy-Driven Upgrades for this planning cycle.

LSA has several concerns about the analysis and conclusions. These concerns are listed below and further explained in the remainder of this document.

- The CAISO should ensure that the proposed Special Protection Schemes (SPSs) are properly designed to NERC standards.
- Existing reliability problems (i.e., upgrades triggered in the studies before the addition of new generation), and those primarily driven by factors other than new-generator interconnection, should be addressed in the TPP, not the GIP.
- The CAISO should clarify the criteria used to classify overloads (and resulting mitigation measures) as area-wide (and addressed in the TPP) vs. localized (and deferred to the Generator Interconnection Process (GIP)).
- Similarly, the CAISO should clarify the criteria used to classify GIP Delivery Network Upgrades (DNU) as Area DNUs (ADNUs) vs. Local DNUs (LDNUs).
- The CAISO should review the assumptions in the Import Sensitivity Scenario to ensure that the scenario is feasible.
- The CAISO should conduct further analyses of the conceptual transmission projects identified in this planning cycle to reflect the new overall framework (e.g., parties responsible for funding and owning transmission under the new GIDAP rules).

SPS design

SPSs were identified as the mitigation for most of the thermal overloads. LSA strongly supports use of SPSs wherever feasible, since they enable more efficient use of existing/approved transmission and avoid unnecessary costs of new transmission that will rarely, if even, be needed.

However, the CAISO should ensure that the SPSs are coordinated with relay settings (as specified in NERC Standards PRC-023-1 and PRC-023-2) on overloaded lines. That way, the lines will only trip after the SPSs are activated.

Reliability problems caused by factors besides new generation

The studies identified several reliability issues that appear to be problems existing even before the addition of new generation, or that are driven primarily by reliability or load-serving issues, and assigning responsibility for mitigation measures to interconnection customers through the GIP. LSA believes that mitigation of such overloads should be addressed in the TPP, and not assigned to interconnection customers through the GIP.

For example, the Lugo – Victorville 500 kV line is overloaded in three portfolios by the N-2 outages of: (1) Eldorado-Lugo and Mohave-Eldorado 500 kV lines; and (2) Eldorado-Lugo and Lugo-Mohave 500 kV lines (slide 6 of “SCE Policy Driven Powerflow and Stability Results”). This overload seems to exist even in the Environmental portfolio, which has 0 MW of RPS generation modeled in the Eldorado area (slide 4 of the same presentation). Although this portfolio also modeled 365 MW of RPS generators in the nearby Mountain Pass CREZ, the overload would probably still exist even without that generation as well.

However, it appears that this upgrade has been assigned to the Eastern Group in Clusters 3-4. LSA believes that the Tariff does not permit CAISO to assign the cost of upgrades needed to mitigate existing problems (before new generation is added) to interconnection customers, in this or other similar situations. In other words, the new generation does not trigger the need for the upgrade, so that upgrade should be handled through the TPP, and not the GIP.

In other areas (particularly on PG&E’s system), the CAISO and PTO propose to address thermal overloads in the system – including those heavily driven by factors other than new-generation interconnections – through Special Protection Schemes (SPSs), with costs assigned to interconnection customers through the GIP. The CAISO should also be exploring alternatives to address these issues through the TPP process, and not automatically assuming that SPSs to curtail renewable resources are the optimal solutions.

Area (TPP) vs. localized (GIP) classification

Many overloads triggered by the addition of new generation were classified as “localized concerns.” Their proposed mitigations were thus deferred from the TPP to the GIP (particularly in the PG&E-area Deliverability Assessment).

The need for certain upgrades may depend on the specific placement of generation in the model, and perhaps those upgrades should be addressed in the GIP process. However, it is not clear how a potential problem would be classified as a localized (GIP) concern as opposed to a wide-area (TPP) concern. For example:

- **Overloads of the 230 kV Los Banos – Westley line are classified as localized concerns.** This line affects both central-station and distributed generation in the Central Coast/Los Padres, Greater Fresno, Los Banos, Merced, and Westlands areas. It also supports power transfers on the 500 kV system between Tesla and Los Banos, and it serves as interface between the CAISO BAA and the TID and SMUD BAAs.
- **Overloads on several SDG&E 69 kV lines are not classified as localized concerns,** even though flows and overloads on those lines have much more limited impacts.

The CAISO should explicitly detail the criteria used to determine the classification of transmission-facility overloads and explain how each of the identified overloads (and proposed mitigation) was evaluated against these criteria.

ADNU vs. LDNU classification

During the meeting, stakeholders noted the continuing ambiguity concerning the criteria used to distinguish ADNUs from LDNUs. They expressed concern that this ambiguity might leave too much room for engineering judgment, rather than using measurable and specific criteria.

This is not a new issue, as it was raised several times during the GIDAP stakeholder process. However, the TPP results offer a clear demonstration of this ambiguity.

The CAISO has stated before that an upgrade is classified as ADNU if it alleviates a problem affecting more than one cluster-study area. To increase stakeholder understanding of the proposed ADNU/LDNU classifications, and ensure that these criteria are applied uniformly, the CAISO should provide more information about which study areas contribute to the problems that trigger each ADNU, in the next stakeholder meeting or in the transmission plan.

Import Sensitivity Scenario issues

This scenario contains several assumptions that may render it infeasible. The CAISO should review it further to ensure that the conditions modeled make sense in combination.

For example, 3000MW was added at El Dorado Substation in this scenario, and 3000MW of CAISO-area generation was removed from the LA Basin and other areas. The removed generation included projects with Power Purchase Agreements (PPAs) that are already under construction in eastern Riverside County. The analysis also seems to assume that other paths into California (such as Path 66) are also stressed at the same time.

In addition, the proposed new 500kV line from El Dorado to Rancho Vista would likely require tremendous reactive power support. However, that requirement was not studied in the sensitivity case.

Further analysis of conceptual transmission projects

LSA supports the CAISO/PTO identification of certain conceptual transmission projects. This is a very important planning tool, especially given the long lead time for major transmission projects.

However, the criteria and methodology used for classification of the problems that would be mitigated by these projects be further vetted through the stakeholder process. In particular, the parties that would be funding and owning the new transmission projects under the new GIDAP framework should be identified, and the benefits and costs to each of these entities should be better understood.