

The ISO received comments on the topics discussed at the June 25, 2015 stakeholder meeting from the following:

1. Mojave Solar LLC (“Mojave”)

Copies of the comments submitted are located on the 2015-2016 Transmission Planning Process Page under the North of Lugo Mitigation Project subheading at: <http://www.caiso.com/planning/Pages/TransmissionPlanning/2015-2016TransmissionPlanningProcess.aspx>.

The following are the ISO’s responses to the comments.

No	Comment Submitted	CAISO Response
1	Mojave Solar LLC (“Mojave”) Submitted by: Emiliano Garcia Sanz	
1a	Study reports or study results that document the conditions under which the high voltages are seen.	<p>A light load/low generation case was developed based on real-time information, with total NOL area load of 390 MW and generation dispatch of 274 MW. In order to gauge the prevalence of the high voltage problem, a less severe case with higher load (562 MW) and higher generation dispatch (729 MW) was also studied. This was the same base case used for studying 2019 light load conditions in the 2014-15 Transmission Plan.</p> <p>Category B (under a scheduled outage of Lugo 500/230 kV bank):</p> <ul style="list-style-type: none"> • Loss of the remaining Lugo 500/230 kV bank would result in extreme high voltages (~259 kV, ~252 kV and ~253 kV at Kramer, Victor and Lugo 220kV substations respectively) <p>Category C:</p> <ul style="list-style-type: none"> • T-1-1 of Lugo 500/230 kV banks 1 & 2 result in extreme high voltages (~259 kV, ~252 kV and ~253 kV at Kramer, Victor and Lugo 220kV substations respectively) • N-2 of Lugo-Kramer 220 kV lines would results in ~259 kV voltage at Kramer 220 kV substation.
1b	Assumptions used when running the studies provided in response to 1 above: a. load levels b. generation dispatch and unit commitment, and c. any outages other than the Lugo - Kramer 230 kV N-2 and the Lugo 500/230 kV transformer T-1-1 that cause high voltages on the North of Lugo system.	<p>a. NOL area load levels ranging from 390 MW to 562 MW</p> <p>b. NOL area generation dispatch ranging from 274 MW to 729 MW</p> <p>c. Scenarios tested in TPP studies have not highlighted any other outages so far</p>
1c	Did you consider a new 230/115 kV transformer at Coolwater as possible mitigation for the high voltages, as an alternative to the North of Lugo High Voltage Mitigation Project currently being proposed by CAISO? If so, please provide all assumptions used and all study reports and study results for such alternative?	<p>A new Coolwater 230/115 kV transformer alone will not be an effective mitigation for the high voltage issues in NOL area. Since the high voltage problems exist on the 230 kV as well as on the 115 kV side, adjusting the tap settings on this new transformer and on existing transformers in this area will only shift the high voltages from one side to the other.</p> <p>The same assumptions were used for testing this alternative as the ones mentioned in response to 1a.</p>
1d	Did CAISO consider any alternatives to address the high voltage conditions other than its proposed North of Lugo High Voltage Mitigation Project? If so,	CAISO considered an operational mitigation which would involve relying on generation units capable of absorbing reactive power for

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	please provide all assumptions, study reports and study results for any such alternatives considered.	extended periods of time over several days and nights during a scheduled or forced outage. Other operational actions such as operating Kramer area generation in buck more, adjusting transformer bank LTCs, de-energizing Kramer-Cool Water 220 kV line were also considered.
1e	Which contingencies caused the highest voltages at Kramer 230 kV?	Loss of Lugo AA bank 1 and bank 2 (T-1-1 or T-1 under a planned outage of one bank), Loss of Kramer – Lugo 220 kV No. 1 and No. 2
1f	Which contingencies caused the highest voltages at Victor 230 kV?	Loss of Lugo AA bank 1 and bank 2 (T-1-1 or T-1 under a planned outage of one bank)
1g	Which contingencies caused the highest voltages at Lugo 230 kV?	Loss of Lugo AA bank 1 and bank 2 (T-1-1 or T-1 under a planned outage of one bank)