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# **2013 Annual Full Capacity Option Study – WDAT504DS2**

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December 3, 2013

This study has been completed in coordination with California Independent System Operator Corporation (CAISO) per CAISO Tariff Appendix DD Generator Interconnection and Deliverability Allocation Procedures (GIDAP)

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1. SCE Northern Hemisphere Import Nomogram

## **A. Executive Summary**

In accordance with Southern California Edison Company's (SCE) Wholesale Distribution Access Tariff (WDAT) Attachment I Section 4.7.1, [REDACTED] an Interconnection Customer (IC), submitted a request to determine whether their proposed [REDACTED] (Project) can be designated Full Capacity Deliverability Status or Partial Capacity Deliverability Status based on the available transmission capacity under the Annual Full Capacity Deliverability Option within the Queue Cluster 5 (QC5) Application Window. The California Independent System Operator Corporation (CAISO) performed the Annual Full Capacity Deliverability Option study in accordance to the CAISO Tariff Appendix DD Section 9.2.

The IC previously submitted a completed Interconnection Request (IR) to SCE for their proposed Project with an Energy Only Deliverability status request. The Project is a solar photovoltaic (PV) generator with a total net output of 10 MW with its Point of Interconnection (POI) at SCE's existing Fairmont 12 kV circuit out of Del Sur 66/12 kV Substation in the Antelope System. The IC has requested a Commercial Operation Date of October 31, 2014 for the Project. The cost and schedule for the Interconnection Facilities, Distribution Upgrades and Reliability Network Upgrades required to interconnect the Project, under Energy Only Deliverability status, have been addressed in SCE's previously issued System Impact Study (SIS) report package that included of the WDAT System Impact report dated March 1, 2011 and the Transmission Assessment dated April 31, 2011, and SCE's most recent Facilities Study (FS) dated April 24, 2013.

The Annual Full Capacity Deliverability Option study has determined that there is sufficient transmission capacity available to support Full Capacity Deliverability Status for the Project once the following transmission projects are in service:

- Tehachapi Renewable Transmission Project
- East Kern Wind Resource Area project

Any transmission or distribution upgrades identified in the interconnection studies for the Project associated with the Energy Only Deliverability Status.

Additionally, it is important to note that the Full Capacity Deliverability Status does not convey any transmission right and does not guarantee that the Project will be able to generate at its maximum Generating Facility output. All generators, regardless of their deliverability status, are subject to congestion management through the market operation and during real-time operation.

As stated in Attachment 1, studies indicate that as more resources in the SCE Northern Hemisphere develop and are dispatched, the amount of available transmission capacity for the Northern Area resources is further diminished. Such conclusions point to an ultimate need for more congestion management, generation resource curtailments, than is identified in these interconnection studies.

## **B. Project and Interconnection Information**

For Project description and Project plan of service/point of interconnection discussion please refer to the previously issued report(s) related to the "Energy Only" portion of the Project.



## New Transmission Projects

All ISO-approved transmission projects were modeled in the base case<sup>1</sup>. In general, Delivery Network Upgrades required for generation interconnection projects up to and including Queue Cluster 5 were not included in the base case unless such upgrades have received regulatory approval. Reliability Network Upgrades required to interconnect the projects up to and including Queue Cluster 5, such as plan of service upgrades and SPS, were included in the base case model. Table 1 below list all the transmission projects that were modeled and relevant to the assessment of the Project.

Table 1: Transmission Projects Assumed in the Study

Project	In-Service Date
Tehachapi Renewable Transmission Project	2016
East Kern Wind Resource Area 66kV reconfiguration project	2014

## Generation Assumptions

All existing generators and generation projects up to and including QC5 were modeled according to their deliverability status.

Generation dispatch assumptions in Deliverability Assessment can be found at <http://www.aiso.com/Documents/Deliverability%20assessment%20methodologies>. In the on-peak Deliverability Assessment, the Peak Qualified Capacity for proposed Full Capacity generation projects is set to 64% of the requested PMax for wind generation and 100% of the requested PMax for Solar generation initially. The Peak QC may be adjusted to 40% of the requested PMax for wind generation and 85% for solar generation if a mix of different fuel type generations is identified in the Deliverability Assessment as the 5% DFAX group for a transmission limitation. In the off-peak Deliverability Assessment, the proposed Full Capacity wind generation is dispatched at its requested PMax and solar generation at 85% of its requested PMax.

## D. Deliverability Assessment Results

The Project does not contribute to any overloads identified in the Deliverability Assessment. As the result, the Project will have Full Capacity Deliverability Status once the transmission upgrades listed in Table 1, as well as any other upgrades identified in the interconnection studies associated with the Energy Only Deliverability Status, are in service.

## E. Conclusion

The Annual Full Capacity Deliverability Option study has determined that there is sufficient transmission capacity available to support Full Capacity Deliverability Status for the Project once the following transmission projects are in service:

- Tehachapi Renewable Transmission Project
- East Kern Wind Resource Area project

<sup>1</sup> Based on the information from the 2012/2013 ISO Transmission Plan

- Any transmission or distribution upgrades identified in the interconnection studies for the Project associated with the Energy Only Deliverability Status.

**Attachment 1**

**SCE Northern Hemisphere Import Nomogram**

Please refer to separate document.