Standard Capacity Product Phase II

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Stakeholder Conference Call
April 13, 2010
ISO Stakeholder Process
Standard Capacity Product Phase II

Project is triggered
Issue ID Paper
Straw Proposal
Draft Final Proposal
Board of Governors
FERC

We are here.

Opportunities for Stakeholder Input
Meeting Agenda

1. • Background
2. • Scope of SCP II
3. • Availability Calculation
4. • Tariff Clarifications
Background of the SCP II Initiative

- FERC Order – SCP II
- Mkt Initiatives Roadmap – SCP
- MRTU FERC Order – Performance Standards
- Initiation of the RA Program
Final scope of the SCP II Proposal.

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Deferred RA resource types require a different availability calculation.

- Qualifying capacity (QC) is based on historical energy production
  - Production in peak hours – and hence QC – is typically much lower than resource’s nameplate or maximum capability
- Expect QC counting rules of CPUC and local regulatory authorities to be revised if needed to address “double counting” concern
  - QC should exclude hours in which the resource had full or partial forced outage or temperature-related ambient derate
- Thus production data for calculating QC is from hours of full nameplate capacity availability.
The proposed availability calculation considers physical capability and actual energy produced.

- Supplements the proportional methodology for determining availability with consideration of the actual energy produced
- Calculates the actual availability of a resource by taking the greater of the proportionate value or the energy produced value
- Applies to resources such as wind, solar, biomass, geothermal and cogeneration resources whose QC is determined by historical output.
A forced derate that reduces a resource’s available capacity reduces its ability to provide its full QC.

- Consider a hypothetical wind farm having Pmax = 100 MW comprised of 100 x 1 MW turbines.
- Its QC = 15 MW is calculated on hourly production during peak hours with all 100 turbines available.
  - QC for this resource = 15% of Pmax.
- If 20 of 100 turbines are forced out for an SCP assessment hour, the resource’s ability to provide its full QC is reduced by 20 percent for that hour.
  - Availability to provide RA = 80% x 15 MW QC = 12 MW
  - Equivalent to 15% of 80 MW available capacity = 12 MW
Example 1: Intermittent resource with QC = 15% of nameplate (Pmax) has a 20% capacity derate

Pmax = 100 MW

QC = 15 MW

Supply plan = 10 MW

20 MW derate

12 MW available

This resource is at 80% of full capacity due to the derate.

Accordingly the resource is available to provide at most 80% or 12 MW of its QC.

Because supply plan shows a 10 MW as RA, the resource is considered 100% available for SCP purposes.
Example 2: Intermittent resource with QC = 15% of nameplate (Pmax) has a 50% capacity derate

Pmax = 100 MW

QC = 15 MW

Supply Plan = 10 MW

50 MW derate

This resource is at 50% of full capacity due to the derate.

Accordingly the resource is available to provide at most 50% or 7.5 MW of its QC.

Because supply plan shows 10 MW as RA, the resource is considered 75% available for SCP purposes.

7.5 MW available
Next, consider the actual energy that was delivered from a derated RA resource.

1. Perform the availability calculation for deferred resource types to determine proportional derate value.

2. Check to see if the actual energy delivered was greater or less than the proportional derate value.

3. If the actual energy delivered was greater than or equal to the # of MW on the supply plan, consider the resource 100% available; else,

4. If actual energy delivered was less than the # of MW on the supply plan, use the maximum of the actual energy delivered and proportional derate value.
Example 2a - actual energy delivered > supply plan obligation

This resource is at 50% of full capacity due to the derate.

This resource delivered 12 MWh to the ISO grid for RA capacity.

Because supply plan shows 10 MW as RA, the resource is considered 100% available for SCP purposes.

P_max = 100 MW

QC = 15 MW

Supply plan = 10 MW

7.5 MW available

12 MWh delivered

50 MW derate

7.5 MW available
Example 2b - actual energy delivered < supply plan obligation but > available capacity

- P_{\text{max}} = 100 \text{ MW}
- QC = 15 \text{ MW}
- Supply plan = 10 \text{ MW}

50 \text{ MW derate}

This resource is at 50\% of full capacity due to the derate.

This resource delivered 9 \text{ MWh} to the ISO grid for RA capacity.

Because supply plan shows 10 MW as RA, the resource is considered 90\% available for SCP. Energy delivered is still greater that the pro-rata value.
Example 2c - actual energy delivered < supply plan obligation & < available capacity

- $P_{max} = 100$ MW
- $Q_C = 15$ MW
- Supply plan = 10 MW

50 MW derate

This resource is at 50% of full capacity due to the derate.

This resource delivered 2 MWh to the ISO grid for RA capacity.

Because supply plan shows 10 MW as RA, the resource is considered 75% available for SCP purposes because the pro-rata share of the RA available is 7.5 MW.

2 MWh delivered

7.5 MW available
Clarify existing tariff language related to SCP.

- Section 40.9.4.2 – …Forced Outage, non-ambient de-rates, or temperature-related ambient de-rates…
  - Non-ambient de-rates are included in the tariff definition of “Outage”
  - Eliminate “non-ambient de-rate” from the tariff language
- Section 40.9.6.3 - …Real-Time neutrality charge for that Trade Month in accordance with Section 11.5.2.3…
  - Section 11.5.2.3 limits allocation to metered CAISO Demand that is scheduled at one of the three Default LAPs
  - New sentence reflects the allocation to all metered CAISO Demand.
Please provide your final comments on these issues.

1. Availability calculation

2. Tariff clarifications

Send comments to scpwm@caiso.com by April 20, 2010
Important dates for SCP II

April 20
Final comments due*

May 17, 18
Board of Governors Meeting

* Submit comments to scpm@caiso.com