

# *Transmission Update*

April 2008

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## Summary

- ✓ Welcome to the Fifteenth National Wind Coordinating Collaborative (NWCC) Transmission Update! Kevin Porter of Exeter Associates, Inc. led the April 28, 2008, Transmission Update conference call. As always, this written brief is being distributed after the call to conference call participants, other NWCC members and participants, and to interested NWCC observers.
- ✓ This update features the California Independent System Operator's (CAISO) and the Midwest Independent System Operator's (Midwest ISO) initiatives on reforming their respective generator interconnection queues.
- ✓ Specific topics covered in this brief include:
  - Issues with the current Federal Energy Regulatory Commission (FERC) generator interconnection procedures and how they are creating backlogs for transmission operators.
  - Reforms for queue management and generator interconnection procedures that have been proposed by the CAISO and the Midwest ISO.
- ✓ Dennis Peters of the CAISO discussed issues with the CAISO's generator interconnection queue and described the reforms that have been proposed to address it. Jennifer Curran of the Midwest ISO did the same for the Midwest ISO queue.
- ✓ The next Transmission Update call is May 20, 2008, at 1 pm Eastern Time. Please mark your calendars!

## Generator Interconnection Queues

### Background

Generator interconnection procedures for generators over 20 MW to interconnect to the transmission grid are governed by Federal Energy Regulatory Commission (FERC) Order 2003 which explains how interconnection requests are prioritized and how interconnection studies are conducted. The central feature of the generation interconnection procedures is the interconnection queue. The queue is based on first-come first-served, where transmission providers assign sequential queue positions to generators when

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they file their request to interconnect with the grid. Interconnection studies are then conducted for each generator by the order in which they are found in the queue, with each interconnection study required to take into account all other projects in the interconnection queue ahead of the project being studied.

## **Issue**

The number of generator interconnection requests has surged in the last few years, with wind projects being a contributor to the increase in queue requests. FERC organized a technical conference on interconnection queuing practices on December 11, 2007. At the conference, participants discussed issues related to the interconnection queues and the challenges faced by transmission providers. Participants also explored possible reforms that could be implemented and different approaches that could be used to manage and process queue requests.

A general consensus emerged at the technical conference that FERC should allow regions to determine how to reform their interconnection queue processes instead of issuing another rulemaking. In March 2008, FERC issued an order directing the various Independent System Operators (ISO) and Regional Transmission Organizations (RTOs) to provide filings outlining the status of their queues and proposals for queue process reforms. These reports were subsequently filed with FERC during the week of April 21, 2008.

## **California Independent System Operator Generator Interconnection Queue**

### **Background**

Mr. Dennis Peters from the CAISO began by outlining the current status of the queue in California. CAISO services 80 percent of California's load, with 55,000 MW of total capacity from 1,400 units connected to its transmission system.

The CAISO has seen large increases in generator interconnection requests in recent years. The CAISO currently has 265 interconnection requests representing over 77,000 MW of generation; 183 of these requests are for renewable energy projects representing approximately 50,000 MW. Mr. Peters notes that these requests are being driven in part by California's Renewables Portfolio Standard (RPS) that requires load-serving entities under the jurisdiction of the California Public Utilities Commission to have 20 percent of their energy sales from eligible renewable energy sources by 2010.

## CAISO Proposal

Mr. Peters said the procedures outlined in FERC Order 2003 are inefficient with respect to the current large volume of interconnection requests, and that Order 2003 failed to anticipate the growth in renewable energy projects. An assumption underlying Order 2003 is that generation interconnection requests would mostly come from generation projects located close to loads in areas with excess transmission capacity. However, the majority of requests received in the last few years are from renewable energy developers that are concentrated in areas located far from load centers and are lacking adequate transmission.

Mr. Peters identified two problems with the interconnection requirements in Order 2003: the ease of entry into the interconnection queues and the serial study approach. Generators can secure a queue position with an interconnection request and a \$10,000 deposit. The low entry requirement encourages generators to enter the interconnection queue at an early stage of project development. In addition, interconnection studies are required to be done in sequence according to queue position. At each study stage, the particular project study being conducted must take into account all of the higher queued projects. If other projects withdraw from the queue, re-studies are often required for lower-queued projects in the same area. This is leading to numerous rounds of interconnection re-studies.

The CAISO started a stakeholder interconnection assessment and reform process in January 2008. The overall goal is to make generator interconnection a more efficient process that is coordinated with the CAISO transmission planning process, the designation of state energy resource areas, and to provide more certainty on timing and costs to generators. The CAISO has proposed a cluster study approach with two cluster windows per year. Studies would then be conducted for groups of projects located in the same area within each cluster window and these would feed into the CAISO transmission planning process.

Once the cluster study is complete, the transmission upgrade costs would be allocated on a pro rata basis to generators wishing to move forward. However, Mr. Peters said that clustering alone would not be enough and that the ease-of-entry issue also needs to be addressed. The CAISO has proposed raising the deposit amount to \$250,000 in order to ensure that only projects that are ready to proceed enter the queue. The CAISO also has proposed that generators have control over their proposed site or pay an additional \$250,000, as compared to the \$10,000 under the CAISO's current large generation interconnection tariff. The CAISO is also considering requiring generators to make a binding financial commitment once the interconnection studies are finished and the generator signs an interconnection agreement with the CAISO.

The CAISO is also focused on clearing the current backlog in the queue. The CAISO issued a market notice on April 8<sup>th</sup> creating an initial queue cluster window that will open on June 2<sup>nd</sup>, 2008. The CAISO also will create a one-

time serial study group for generating projects that meet one or more of the following conditions:

- They have executed a system impact study agreement with an estimated completion of before May 1, 2008;
- They have an approved or pending power purchase agreement; or
- They are seeking interconnection to a transmission project that has received state or federal approval.

The CAISO would conduct interconnection studies under the existing Order 2003 serial study group. Proposed generating projects that do not meet the criteria would be placed into a transition group and would have to submit a largely non-refundable deposit of \$250,000. The deposit would be refundable, net of study and administrative costs, should the proposed generator enter into an interconnection agreement with the CAISO. In addition, generators would have to submit proof of site control or an additional deposit of \$250,000. The CAISO believes that by increasing deposit requirements, proposed generating projects in the transition group that are not very far along in the project development phase may withdraw and perhaps enter a later queue if that is more suitable for their development timetable.

To implement these proposals, the CAISO will file with FERC a requested waiver of Order 2003 procedures for the following:

- A waiver of the 180-day deadline for its first initial queue cluster window. The CAISO said that the timetable for the serial study group, the transition group and the initial cluster window will exceed 180 days, as the studies for the serial and transition groups must be done sequentially.
- A waiver of the deadline for interconnection feasibility studies for projects in the initial queue cluster window. This will allow the CAISO to focus on processing projects in the serial study and transition groups.

The CAISO is expected to make a FERC filing on their interconnection reform proposal by July, and will request FERC's approval by late August.

## **Midwest Independent System Operator Generator Interconnection Queue**

### **Background**

Jennifer Curran from the Midwest ISO began by noting that the Midwest ISO faces many of the same issues as CAISO, with greatly increased growth in generation interconnection requests. The Midwest ISO currently has about 110,000 MW of load and about 130,000 MW of generating capacity. The Midwest ISO received 62 percent more interconnection requests and double the capacity in 2007 over the previous year. Wind projects are the biggest driver,

with 23,000 MW alone from the Buffalo Ridge area in Minnesota. There are 325 active interconnection requests, 262 of which are for wind, amounting to 75,300 MW, of which 60,600 MW are for wind.

## Midwest ISO Proposal

Ms. Curran said that the Midwest ISO had also been conducting a stakeholder process to consider changes to how interconnection requests are processed. The Midwest ISO is focusing on three elements: interconnection entry requirements; moving to a milestone-based process; and tightening requirements for allowing generating projects to suspend processing of their interconnection request following execution of an Interconnection Agreement.

Concerning entry requirements, the Midwest ISO concurred with the CAISO that the financial deposit requirements for filing an interconnection request are too low. Ms. Curran said the Midwest ISO is working on alternative ways to prioritize interconnection queue requests. The Midwest ISO proposal contains a 'fast lane' option for projects that are at a higher level of readiness and/or are in an area where transmission capacity is available. The Midwest ISO will study these projects as a group.

The Midwest ISO also proposes to increase deposit fees by collecting the entire study costs upfront and refunding any unused balances at the end. This could entail upfront deposit amounts up to \$600,000, depending on the size of the project. The increased deposits would include a portion targeted for restudies; that part of the deposit would be retained if a project withdraws from the study process in order to cover some of the restudy costs. Also, projects that are unable to demonstrate site control would need to include an additional \$100,000 deposit.

Ms. Curran said the Midwest ISO is proposing to move to a milestone-based system in place of the sequential process currently used. Projects would move forward through the interconnection study process according to their ability to meet certain milestones such as financial commitments, data availability, power off-take contracts, permit acquisitions, and transmission service security deposits. Ms. Curran said stakeholders generally have agreed that this is a good idea but complications arise when trying to determine what milestones are appropriate at what stages of the process. Different types of generation projects have varying development cycles, and that needs to be recognized when adopting specific milestones.

Another issue that the Midwest ISO has faced is the ability of projects to enter suspended status for up to three years with no loss of queue position. Ms. Curran said the Midwest ISO currently has 26 suspended projects with executed interconnection agreements and this leads to delays for other generation projects. The Midwest ISO is proposing to implement rules where suspensions are only allowed in cases of *force majeure*, and projects that go into suspension would still be required to post a non-refundable deposit for any

identified transmissions system upgrades.

Ms. Curran said the Midwest ISO is planning to file its final proposal with FERC by the end of May and start transitioning to the new process in August. In the meantime, the Midwest ISO will be working to identify existing projects that might qualify for the 'fast lane' process.

The process improvements are only one piece of the queue reform effort. Separately, the Midwest ISO is conducting a new project termed the Regional Generation Outlet Study. Among other things, this study will identify the amount of transmission needed to meet state RPS requirements within the Midwest ISO. In addition, the Midwest ISO plans to revisit its transmission cost allocation policy for transmission projects or upgrades necessary to interconnect generation projects. The Midwest ISO's current policy assigns transmission upgrade costs due to generator interconnections 50-50 between generators and load.

## **Questions and Answers**

A question was asked about the Midwest ISO Regional Generation Outlet Study and how interconnection requests would be sorted, i.e. what criteria would be used to assess renewable projects for inclusion in the plan. The intent of the study is to develop a mid-term (5-10 years) plan of regional transmission projects to help meet individual state RPS policies within the Midwest ISO. Ms. Curran said specific criteria are still under development and that individual states were examining their RPS policies, the opportunities available for meeting the RPS requirements and the best ways to distribute the projects throughout the Midwest ISO region.

Another caller asked if planners with the California Renewable Energy Transmission Initiative (RETI) were working with the CAISO to coordinate the renewable zone development with the transmission process changes. Mr. Peters said the RETI participants are planning on having the zones defined by August this year and that this would certainly be used to inform the CAISO's queue process and transmission planning. Ms. Curran noted that the Midwest ISO was examining a similar concept. She pointed out that one of the problems with the current system was that the interconnection queues were driving transmission planning when it should be the other way around, with regional transmission planning identifying where transmission projects are needed.

A caller inquired about the CAISO cluster study for the Tehachapi Area and how it was progressing. Mr. Peters explained that the CAISO received a waiver from FERC to depart from the Order 2003 procedures to study proposed projects in Tehachapi as a group. He said the study consisted of 19 projects, but it was not a traditional 'cluster' study, as is being proposed in the CAISO's new interconnection procedures. CAISO did a group study for the area and

defined the transmission needs for Tehachapi, based on the proposed projects and the total generation resources available in the area, but it was a one-time study. Going forward, procedures will be more defined with regard to study requirements and processes. Another call participant thought that the CAISO's proposed deposit fee of \$250,000 was too large and would place an undue burden on some projects.

Another caller asked whether human resources has been an issue, i.e. are there enough people available to conduct the required studies. Ms. Curran said that fewer consultants have been available of late but it was a small piece of the overall problem. She said the Midwest ISO is ramping up staffing but is having difficulty finding experienced engineers. The Midwest ISO has instituted a training program for new engineers in an attempt to fill the gap. Ms. Curran noted that people do not ultimately represent the real bottleneck, as this comes from the many interconnection requests where many projects are competing for the same transmission capacity in the same location.

A question was asked about the FERC interconnection technical conference and what had come about because of it. Mr. Peters said FERC was mostly looking for input on high-level issues pertaining to the interconnection queue and had told the ISOs and RTOs to report on the status of their queues and to file reform proposals. FERC was not looking to issue another industry-wide interconnection order at this time.

The last question requested further explanation of the Midwest ISO fast track proposal. Ms. Curran said that the Midwest ISO is looking to separate those projects that are 'lightly constrained' (or not at all) from those queue requests that represents projects requiring significant transmission upgrades or those competing for the same transmission capacity. The desire is to allow those projects that can move along faster to do so. The Midwest ISO is contemplating changing the feasibility study stage to more of a screening run, conducted several times a year to identify possible fast track projects. Ms. Curran noted this might affect approximately 30 percent of current requests.

## **Implications**

Increasing interest in wind energy and supportive policies such as state RPS policies have contributed to interconnection queues across the country being flooded with interconnection requests. Low entry requirements, sequential processing, and the ability to suspend interconnection requests for up to three years have compounded the logjam.

It is likely that processing of interconnection queue requests will change from a sequential basis to one based on meeting milestones, and that deposits will be raised, perhaps significantly. Of perhaps greater importance is the need for interconnection requests to serve as an input into a robust and effective transmission planning process, rather than the interconnection queue serving as a de facto transmission planning process. Hopefully, what will result is new transmission that can accommodate at least some of the generation that is present in interconnection queues around the country.

**For more  
Information**

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Jennifer Curran, Midwest ISO, [jcurran@midwestiso.org](mailto:jcurran@midwestiso.org)

CAISO Interconnection Queue Stakeholder Process,  
<http://www.caiso.com/1f42/1f42c00d28c30.html>

Midwest ISO Interconnection Queue Stakeholder Process,  
[http://www.midwestmarket.org/publish/Folder/1e1401\\_118199304fa\\_-7dcd0a48324a?rev=1](http://www.midwestmarket.org/publish/Folder/1e1401_118199304fa_-7dcd0a48324a?rev=1)

FERC Interconnection Docket, AD08-02-000  
[http://elibrary.ferc.gov/idmws/docket\\_sheet.asp](http://elibrary.ferc.gov/idmws/docket_sheet.asp)

**Next Update: May 20, 2008**

**The next NWCC Transmission Update will be held on May 20, 2008 at 1 pm Eastern Time.**

*Please email Kevin Porter ([porter@exeterassociates.com](mailto:porter@exeterassociates.com)) with any suggestions for topics on how to improve the call.*