

Transmission Update

May 2009

Summary

- ✓ Welcome to the Twenty Second National Wind Coordinating Collaborative (NWCC) Transmission Update! Kevin Porter of Exeter Associates, Inc. led the April 21, 2009, 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 an update on the Bonneville Power Administration's (BPA) network open season for transmission service, and a discussion on the "anchor tenant" model recently approved by FERC for TransCanada's Chinook and Zephyr transmission lines.
- ✓ Dennis Oster from BPA was on the call to talk about the network open season developments, and Ellen Berman from TransCanada presented the Chinook and Zephyr transmission projects.

BPA's Network Open Season

Background

BPA's first network open season was held from April to May 2008 and resulted in 153 precedent transmission service agreements (PTSA) from 27 transmission customers representing 6,410 MW and \$83 million in security deposits. Wind projects accounted for 4,716 MW of the total agreements signed. BPA's initial cluster study revealed that five transmission projects would help enable 3,699 MW and could be constructed at BPA's embedded cost rates. BPA will fund both the necessary environmental studies and construction of the transmission facilities. BPA's 2009 network open season will be open from June 1st through the 30th, 2009, with the PTSA and security deposits due by August 19, 2009.

Prior to Network Open Season 2008

Mr. Oster started the presentation by outlining the situation BPA was in prior to the 2008 network open season. He noted that the network open season was developed primarily for customers seeking long-term firm transmission service on the BPA internal network, not really for those seeking to interconnect generation projects and access interties and hubs. BPA's transmission request queue had become clogged (316 requests for 14,464 MW) to the point that the system impact (SIS) and system facility (SFS) study process was unworkable and the studies themselves were no longer meaningful. He said it was also clear that many of the transmission service requests in the BPA queue were speculative and duplicative.

As an example, a single 100 MW project would account for 500 MW in the transmission service queue, as a developer would file multiple requests to determine the best place to connect to the BPA grid. At the same time, some customers with an immediate need for transmission service were blocked by speculative transmission service requests higher up in the queue.

Mr. Oster said BPA had tried an open season approach before in 2004 by attempting to sign up potential subscribers for capacity on the proposed McNary-John Day transmission path in Oregon/Washington. That effort failed to get enough advance commitments and the project was shelved. The network open season initiative arose from a convergence of events, prompting BPA to make a second attempt at an open season:

- The BPA Power Services Group is in the process of creating a tiered rate structure for the power generated by the federal hydro system. As BPA's hydro capacity is exhausted and is unable to meet new load growth, many of BPA's customers will be looking for new power resources by 2011.
- The establishment of Renewable Portfolio Standards in Oregon, Washington, and Montana (and California) are driving the growth of wind energy.
- The BPA transmission grid, in its current state, cannot accommodate projected future transmission usage.
- No coordinated regional transmission planning is in place to define future transmission requirements.

The American Recovery and Reinvestment Act of 2009, more popularly known as the stimulus bill, provided BPA with an additional \$3.25 billion in borrowing authority from the U.S. Treasury. Along with the advance transmission service commitments and security, the increased borrowing authority ensures that BPA can bear the costs for each project and embed the costs into BPA's transmission rates.

**Network Open
Season
Process**

BPA required those with a long-term transmission service request to sign a PTSA and provide a refundable deposit equal to 12 months of transmission service. Failure to sign and return the PTSA with a refundable deposit resulted in removal from BPA's transmission service queue.

BPA then conducted an update of its transmission queue and, where transmission capacity was available, offered the service associated with the PTSA. When the queue update was done, BPA conducted a cluster study on the remaining PTSAs to determine what new facilities and/or system expansions might be needed to provide transmission service.

Once the cluster study results were final, BPA conducted a financial analysis to determine which projects could be provided at an embedded or incremental rate. Where a project was determined as meeting the embedded rate criteria, BPA went

ahead with preliminary engineering and design and environmental studies at BPA's cost. For those projects that were determined to need an incremental rate, the PTSA was terminated and the customer is responsible for funding further studies.

Mr. Oster said the 2008 network open season results were far in excess of what BPA had expected. Of the 6,410 MW of service from the PTSA's, 5,810 MW were for point-to-point transmission service and 591 MW were for network transmission service. Mr. Oster remarked that after BPA had removed the requests that had not signed a PTSA from the queue, there was enough freed up transmission capacity that BPA was able to immediately offer 1,834 MW of new transmission service without any grid upgrades at all.

The cluster study identified eight new areas of transmission reinforcement that were needed for BPA to be able to accommodate all of the PTSAs. The subsequent financial analysis determined that five of the projects could be constructed at embedded rates. On February 15, 2009, BPA announced it was proceeding with engineering and environmental studies for the following projects that they estimate would cost approximately \$800 million to construct:

- McNary-John Day 500-kV line, now under construction.
- Big Eddy-Knight 500-kV line and substation.
- Little Goose 500-kV line.
- I-5 Corridor 500-kV line and substation.
- West of Garrison Remedial Action Scheme

Three projects were determined to require incremental rates – Harney, Monroe-Echo Lake, and La Grande. Mr. Oster speculated that these projects might be part of the 2009 network open season.

Mr. Oster noted the 2008 network open season had been very supportive of wind development, resulting in 914 MW of immediate new transmission service for wind and another 2,750 MW of the transmission for wind from the new transmission facilities when constructed. Additionally, BPA launched a conditional firm transmission product in conjunction with the network open season and has been able to offer 1,010 MW of this to new wind projects.

Lessons Learned

Mr. Oster said the following lessons could be learned from the first network open season:

- Collaboration is key – without the support of FERC and BPA's customers, the network open season would not have been successful.
- The response far exceeded BPA's expectations – BPA would have considered 1,500 MW of new transmission service commitments a success.
- Transmission service requests continue to come in – about 80 requests for over 5,400 MW of new service have been made since the close of the 2008

network open season.

- A cluster study is the only practical method for evaluating the impacts to multiple transmission service requests on the same transmission path.
- Speculation may still exist – some projects have PTSAs but are not licensed and may not have large generator interconnection agreements.
- The security deposit may not be enough to mitigate the risk profile of each project. BPA is not changing any of the security requirements for 2009; however, it will continue to assess this situation.

Mr. Oster noted that BPA was so encouraged by the network open season results that it is now exploring an Intertie Open Season (IOS) process. This will take some time as the IOS is considerably more complex, involving many different parties. BPA is working with other entities to examine options, but the idea is gaining momentum as the BPA-California intertie is at full capacity, with the BPA-Montana intertie not far behind.

Discussion

A caller asked how BPA is planning to address the speculation issue in the 2009 network open season. Mr. Oster said BPA is examining the deposit requirements. He said about \$15 million is needed just for the various studies, and then construction costs run about \$200 to \$400 million per project. BPA does not want deposits to become a barrier but they do need some certainty that transmission service customers will not just bail. He said BPA might require enough security with a PTSA that will move the process to the point of making a decision to build, and then seek additional security deposits before construction can start. A decision on this should be forthcoming in the next few weeks. *(Note: Since the call, BPA has determined that it will not change security requirements but will apply further diligence on mitigation efforts associated with the risk profile of each project).*

A caller wanted to know how BPA had estimated its risk and if they had any examples of previous projects that had failed with the costs having to be recovered through rates. Mr. Oster said they did not have a list of examples. He noted that each project consisted of multiple PTSAs and therefore, the risk profile was very different from a line supported by a single customer.

TransCanada's Chinook and Zephyr Projects

Background

TransCanada's proposed Chinook and Zephyr transmission projects are two separate but complementary 1,000-mile, 3,000 MW HVDC lines costing \$3 billion each. Chinook starts in Montana and Zephyr in Wyoming. The two lines meet in Borah, Idaho and then run a parallel path to Las Vegas, Nevada. Each line will have a 750 MW converter station at Borah to connect to the Pacific Northwest and Idaho wind resources. In February 2009, FERC approved an anchor tenant development model for both lines, whereby half of the capacity on each transmission line is pre-subscribed and the other half is made available under an open access transmission tariff. Zephyr and Chinook have entered into commercial arrangements with an unnamed potential anchor customer on each line.



Source: TransCanada website

Anchor Tenant Model

Ms. Berman said that TransCanada has been in the natural gas pipeline business for many years, and the company is familiar with the anchor tenant model. These two transmission projects are the company's first electric transmission projects in the U.S. and have evolved over the last four years. Ms. Berman said TransCanada has completed the preliminary engineering, costing, and routing work necessary to commercially subscribe the lines and had entered into commercial arrangements with wind developers to be anchor customers for 1,500 MW of capacity on each line, subject to among other things, FERC approval of the anchor tenant concept.

Ms. Berman noted that in the past, FERC has turned down such applications, maintaining that all of the capacity had to be subscribed through an open season. In their application, TransCanada sought (among other things) a waiver of that requirement and asked to be allowed to pre-subscribe half of the capacity in advance. Ms. Berman said that numerous parties intervened in support of the anchor tenant concept and no protests were filed.

Historically, FERC applied a ten-factor test to determine whether to grant merchant transmission projects negotiated rate authority. In its order granting approval of the anchor tenant model, FERC reworked this ten-factor test and reduced the test to four broader conditions. This new four-factor test was used to evaluate the Chinook and Zephyr projects and will be used when considering merchant transmission projects in the future. The four factors are:

1. Justness and reasonableness of rates.
 - Whether the merchant transmission owner has assumed the full market risk;
 - Whether the merchant transmission owner is building within the footprint of its own (or an affiliate's) traditional regulated transmission system;
 - What alternative do customers have;
 - Whether the merchant transmission owner is capable of erecting barriers to entry among competitors;
 - Whether the merchant transmission owner would have any incentive to withhold capacity; and
 - Whether the project will offer firm tradable secondary transmission rights.
2. Potential for undue discrimination.
 - The open season must be fair, transparent and non-discriminatory;
 - The merchant transmission owner is required to file an open season report;
 - The merchant transmission owner follows the non-discriminatory open access transmission tariff commitments under Order 890 and/or turns operational control over to an ISO or RTO, if available.
3. Potential for undue preference, including affiliate preference.
 - Whether the merchant transmission owner is affiliated with the anchor customer, participants in the open season, and/or customers that subsequently take service on the transmission line.
 - A higher level of scrutiny will be applied when anchor customers are affiliates.
4. Regional reliability and operational efficiency requirements.
 - Merchant transmission owner projects must meet NERC and any regional reliability council requirements.
 - Merchant transmission owners are encouraged to participate in the regional planning processes required by Order 890.

**Chinook &
Zephyr Status**

Ms. Berman said TransCanada spent the first quarter of 2009 determining the final converter station locations and developing the open season and tariff documents. The WECC regional planning and path rating work was kicked off during a meeting in Las Vegas on April 22nd, and they plan on holding the open season sometime during the second quarter of 2009. Ms. Berman noted TransCanada would need to fully subscribe a line in order to proceed to the regulatory phase. If this happens, they will begin the estimated three-year process to site and permit the lines.

Discussion

A caller wanted to know how much of a financial commitment TransCanada would be looking for from the open season. Ms. Berman said they wanted enough

money from customers to cover half the regulatory costs, up to a cap of \$70 million. TransCanada will provide the other half of the funds needed for this phase.

A caller noted that wind customer tenants would be unable to commit to a big money outlay until after they had secured a power purchase agreement (PPA) with a buyer. Ms. Berman said TransCanada had tried to consider this issue and at first will require only a Precedent Agreement, which does not obligate the customer to take transmission service. During the development process, they will request all customers sign a firm transmission service agreement, which will give TransCanada the certainty it requires to proceed with construction, though the company will still fully fund the construction itself. She noted this would give developers time to secure a PPA.

A caller asked about connecting to the lines. Ms. Berman said there would be three converter stations, at the beginning and end of each line and at Borah, Idaho. It will be up to generators to build facilities to connect to the converter stations.

A caller wanted to know if TransCanada had been coordinating their development efforts with other regional and national level build-out initiatives, and whether they were looking at any other projects. Ms. Berman said TransCanada was working with all members in the West. TransCanada has one other proposed transmission project, the proposed Northern Lights HVDC transmission line from Alberta to Oregon.

A caller asked if TransCanada was going to try for funding from the stimulus bill. Ms. Berman said the company had submitted a statement of interest to the Western Area Power Authority (WAPA) and several proposals to fund studies for expanding the project or to build collector systems, but not for funding the capital costs of the lines themselves. TransCanada has it yet heard from WAPA yet. She noted that if WAPA approves the proposals, the project would be put on the federal priority list.

Implications

An issue commonly cited in planning and constructing new transmission is the “chicken and egg” dilemma, where generation developers will not develop projects because of a lack of transmission and transmission companies will not build new transmission because of a lack of generation that will use the transmission. Both BPA and TransCanada are attempting to overcome this issue through subscribing potential transmission customers in advance, thereby providing enough market certainty to go ahead with developing transmission projects. The efforts of BPA and TransCanada show there is tremendous demand for new transmission, and that more innovation is needed for this demand to be met.

**For more
Information**

Dennis Oster, BPA
dmoster@bpa.gov

Sean Egusa, BPA
sregusa@bpa.gov

2008 Network open season documentation:
http://www.transmission.bpa.gov/customer_forums/open_season/default.cfm

2009 Network open season documentation:
http://www.transmission.bpa.gov/customer_forums/open_season_2009/default.cfm

Ellen Berman, TransCanada
ellen_berman@transcanada.com

Chinook Project information request: chinook@transcanada.com
Zephyr Project information request: zephyr@transcanada.com

TransCanada project page:
http://www.transcanada.com/company/zephyr_chinook.html