

Transmission Update

December 2009

Summary

- ✓ Welcome to the Twenty Fifth National Wind Coordinating Collaborative (NWCC) Transmission Update! Kevin Porter of Exeter Associates, Inc. led the December 8, 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 overview of Southwest Power Pool's (SPP) Highway/Byway cost allocation proposal for new transmission projects, and a discussion on how transmission planning and cost allocation should be facilitated on an interconnection-wide level.
- ✓ Jay Caspary from SPP was on the call to discuss the Highway/Byway cost allocation proposal. Brian Rybarik, an Executive Assistant to Commissioner Lauren Azar of the Wisconsin Public Service Commission, and Commissioner Paul Hibbard of the Massachusetts Department of Public Utilities, were on the call to discuss their respective region's perspectives on transmission planning and cost allocation on an interconnection-wide level.

Southwest Power Pool Transmission Cost Allocation

Background

Among the SPP's Regional State Committee (RSC) responsibilities are the development of policies on cost allocation within the Regional Transmission Organization (RTO). Formed in 2004, the committee is made up of state regulatory commissioners from agencies in Arkansas, Kansas, Missouri, Nebraska, New Mexico, Oklahoma, and Texas. Mr. Caspary explained that this group is responsible for the cost allocation methodology currently used for reliability upgrades, known as Base Plan Funding. Many projects have been approved subject to Base Plan Funding. Under Base Plan Funding, one-third of the new or upgraded transmission costs are allocated across SPP on a load-ratio share basis, and two-thirds of the costs are allocated to the zones that benefit from the project. SPP determines the beneficiaries through modeling and owners of transmission facilities that are off-loaded or have reduced flows are assigned the transmission costs.

Mr. Caspary stated that SPP's previous system for allocating costs for economic transmission upgrades (i.e., participant funding) had not been met with much success. Therefore, SPP created and received FERC approval for the Balanced Portfolio, consisting of a group of transmission projects where the projected

1

benefits exceed projected costs for each SPP zone. SPP issued earlier in 2009 Notifications to Construct (NTCø) for a group of 345-kV transmission projects with an estimated cost of \$750 million contained in the Balanced Portfolio. When constructed, these projects will not only create collector systems from Nebraska into Kansas and Oklahoma into Texas, but will also address congestion needs throughout SPP.

Highway/ Byway Cost Allocation Proposal

Mr. Caspary noted that at their October 2009 meeting, SPPø Regional State Committee and its Board of Directors conditionally approved principles for a Highway/Byway rate design for transmission projects. In the approved policy, a Highway is considered any new transmission projects of 300 kV or more, while a Byway consists of new transmission projects below 300 kV. Costs will be allocated 100 percent across SPP for those transmission projects categorized as Highways. Cost allocation for the transmission projects determined to be Byways will be shared. For transmission projects under 100 kV, the costs will be allocated entirely to the zone where the transmission is located. For transmission projects between 100 kV and 300 kV, one third of the costs will be allocated to the region, and two thirds of the costs will be allocated to the zones.

Mr. Caspary said revised draft SPP tariff language will be presented at either a January 2010 or April 2010 meetings of SPPø Regional State Committee and Board. If approved, a filing would be made with FERC.

Discussion

A caller asked if Mr. Caspary could detail some of the transition issues expected to arise during the implementation of a Highway/Byway rate design. Mr. Caspary replied that although he is not directly involved in resolving transition issues, he believes that while it seems reasonable to assign costs to load, the region has a great deal of merchant generation which is not designated to service load and which some would argue should not be allowed to escape any cost responsibility for new transmission facilities. Mr. Caspary stated that he believes there will be a specified cut-off date, after which the costs of any new transmission project will be allocated under the new Highway/Byway rate design.

A caller inquired when the RSC would see the proposed plan. Mr. Caspary stated that the RSC had both seen and endorsed the principles for the Highway/Byway, and a detailed proposal will be presented to the RSC in January 2010, or April 2010 at the latest.

A caller referenced the \$750 million Balanced Portfolio projects and asked if the costs were being allocated as one third regional, two thirds zonal. Mr. Caspary clarified that the costs for those projects were being assigned to load, and allocated entirely to the region.

A caller asked if there was a coordinated, expedited state regulatory approval process for SPP-approved transmission projects that spanned multiple states, since the RSC included Commissioners from the majority of the involved states.

Mr. Caspary explained that there is no SPP-wide transmission siting process, and that while some states do have an expedited process for SPP-approved transmission projects, it varies by state. States are ultimately responsible for transmission siting within SPP.

A caller asked if SPP's Board met monthly or quarterly. Mr. Caspary replied that there are regular meetings each quarter, but the Board also meets on an as-needed basis.

A caller mentioned the U.S. Court of Appeals 7th Circuit decision (*Illinois Commerce Commission et al. v. Federal Energy Regulatory Commission*, Nos. 08-1306 et al), in which FERC's approval of PJM's postage-stamp rate design for allocating costs for high voltage lines over 500 kV was remanded back to FERC. The caller inquired if this was a concern for SPP's Highway/Byway proposal. Mr. Caspary replied that the court's decision was surprising, but thought that FERC did an inadequate job of describing the benefits of new transmission. He further asserted that measures of the benefits of new transmission are not precise, and that a static model cannot fully capture benefits of new transmission projects, as they change over time. Furthermore, Mr. Caspary said that new transmission is a market enabler, improves reliability, and can help in responding to natural disasters. He concluded by reminding call participants that doing nothing has a cost as well.

A caller mentioned that some in SPP had voiced the opinion that the high voltage transmission lines would be built to benefit the growth of wind power, which would then be exported out of the region, creating a disparity between who paid for the transmission and who would benefit from it. The caller asked if this was a minority viewpoint or a more widely held belief in SPP. Mr. Caspary replied that it was a minority view, and most were of the opinion that there was value in a robust grid and connecting to neighboring regions. He noted that determining pricing for new generation would be an important factor, however, in order to lessen the impact of free-riders.

Interconnection-wide Transmission Planning and Cost Allocation

Midwest/Eastern Interconnection

Mr. Rybarik began by noting that, historically, the focus in transmission planning has been on states or on individual utility systems. Although the formation of RTOs created a more regional focus in transmission planning, it will be challenging to broaden transmission planning further to encompass the entire Eastern Interconnection. Mr. Rybarik stated that everyone is aware of congressional proposals for greater federal involvement in transmission planning and siting, which pushing states to work together. He noted that Commissioner Azar has been working for the past year as the President of the Organization of MISO States, and has formed a working group focused on cost allocation known

as CARP (Cost Allocation and Regional Planning).

The CARP is active in reformulating the Midwest ISO's cost allocation policy for new transmission for generation interconnections that was amended in FERC's Otter Tail decision. In the FERC order, the Midwest ISO's transmission cost allocation for new transmission facilities necessary to interconnect new generators was changed from a 50-50 split between generators and transmission owners to an allocation that places nearly all the costs on generators. As required by FERC, the CARP is working with the Midwest ISO and other stakeholders on submitting a revised cost allocation proposal by July 15, 2010. Mr. Rybarik said the CARP is examining a cost allocation approach based on injections on and withdrawals from the transmission grid. The SPP proposal discussed earlier on the call may be considered a variation of this injection-withdrawal concept.

Mr. Rybarik noted that interconnection-wide transmission planning is unprecedented in its scope and that although addressing cost allocation on this level may be a long term goal, the focus is currently trained on interconnection-wide transmission planning. The attention on interconnection-wide transmission planning stems from a provision in the American Reinvestment and Recovery Act, which allocates up to \$80 million to facilitate interconnection-wide transmission planning. To implement this provision, DOE issued a funding opportunity announcement for the Eastern and Western Interconnections and for the Electric Reliability Council of Texas. Mr. Rybarik stated that there are two parts to the DOE funding: Topic A, which consists of engineering and economic analysis, and Topic B, which is comprised of policy initiatives.

When DOE issued the \$80 million funding opportunity announcement, twenty state utility commissioners from the Eastern Interconnection met in Washington in May 2009 to hear the DOE present on what the goals for this funding were. In June 2009, state utility regulators of the Eastern Interconnection submitted a proposal under Topic B with a suggested budget of \$14.8 million.

The goals of the proposal include developing a new organization to represent state interests and views and to reach consensus on the modeling inputs and assumptions to be transmitted to those doing the engineering and economic analysis under Topic A. Mr. Rybarik stated that from Commissioner Azar's perspective, the primary issue to address is facilitating discussion and communication across the Eastern Interconnection.

New England

Commissioner Hibbard began by noting that, generally, Massachusetts and New England agrees that there needs to be strong growth in renewable energy generation. There is disagreement, however, regarding the methods of bringing this about. Massachusetts enacted legislation to increase renewable energy through the expansion of net metering by offering rates comparable to the retail rate for individual units of up to two megawatts of wind power. Commissioner Hibbard stated that this legislation could lead to an increase of roughly 100 MW

of renewable energy resources over the next few years. Another policy implemented in Massachusetts requires distribution utilities to solicit for long-term (fifteen year) contracts for large-scale renewable energy projects for up to 3% of their load. That could result in another 400 to 500 MW of new renewable energy capacity. There is also a proposed bill for siting reform that, if passed, would permit expedited local approval of renewable energy facilities, with a state backstop for permitting. In addition to these state measures, the Massachusetts Department of Public Utilities has approved long-term contracts proposed by distribution utilities to purchase power from wind generating facilities in Maine and New York, including a green power program for consumers. Commissioner Hibbard also noted that the Governors of New England issued a renewable energy blueprint which addresses methods to achieve the larger renewable energy goals on a regional basis.

Commissioner Hibbard stated that Massachusetts supports a cap on carbon emissions and a federal renewable portfolio standard (RPS), but questioned the need for additional planning measures to encourage more renewable energy generation. He noted that Massachusetts focuses on market structure, as the State enacted retail and wholesale electric restructuring and relies heavily on wholesale market competition to maintain the lowest possible prices for electricity consumers. The state utilizes a competitive market for power, and assumes that market-based incentives stimulate the appropriate growth of renewable energy. Such mechanisms include the Regional Greenhouse Gas Initiative (RGGI), a state-level RPS, and caps on nitrogen oxide and sulfur dioxide emissions. For transmission that will reduce congestion or maintain reliability, Commissioner Hibbard supports sharing the costs regionally, but stated that for transmission needed to interconnect generators, the generators should pay the transmission costs to maintain competitive market constructs.

Commissioner Hibbard said that, on the federal level, he finds the approach taken by the House-passed Waxman-Markey climate change bill to be appropriate, as it calls for greater coordination within the interconnections, while studying the interconnection as a whole to decipher solutions. As for the proposed Boxer-Kerry measure under discussion in the Senate, Commissioner Hibbard noted that he has reservations with regard to the transmission planning aspect, more so than the siting or cost allocation measures. The Senate bill would require an interconnection-wide plan to identify major transmission lines to move generation to load centers. FERC would approve these plans, and any transmission deemed necessary under the plan would by definition be considered needed for public convenience and welfare, triggering backstop siting authority and the requirement to allocate associated transmission costs into transmission rates. According to Commissioner Hibbard, this would change the competitive market structure by separating and subsidizing development costs on a discriminatory basis for one set of resources. Commissioner Hibbard pointed out that over 10 GW of new generation has been built in New England over the last 10 years, with all needed transmission costs borne by developers and rolled into electricity prices on a

delivered price basis.

Commissioner Hibbard believes that small fixes to the Senate legislation are all that is necessary to address the concerns of states in restructured markets. He said that he would like to have triggers built into the legislation that would preclude federal involvement unless a region or state was not fulfilling their national RPS obligation. He would also support a FERC backstop result for associated interstate transmission if the states in a region have cooperatively sought and procured renewable energy resources on a consensus basis. Commissioner Hibbard stated that the federal legislation under consideration has a sound structure, but some of the specific provisions are a threat to regions relying on a competitive power markets to discipline power prices for consumers and to develop renewable resources in the least-cost manner possible.

Discussion

A caller noted that Commissioner Hibbard had expressed support for cost allocation over the Northeast for more economic dispatch, and asked if the Commissioner would apply that more broadly across the region. Commissioner Hibbard replied that it would need to be bounded by the market region because in New England, the market price for customers is driven by the ISO New England's market structure. He noted that transmission projects in New England have reduced transmission congestion and constraints within New England, and the savings of reduced re-dispatch are shared across New England, which would be difficult to do across multiple market regions.

A caller noted that New England has imported energy from Hydro-Québec for decades and inquired how this differed from the proposition of importing wind from other regions. Commissioner Hibbard stated that the market price differences between the Midwest and New England, and available transmission pricing incentives, are more than enough to fund any transmission investment needed to move power from West to East. From the perspective of energy products delivered into Eastern markets, the location of the source of the energy is irrelevant, provided it reflects a market outcome and results in the lowest delivered price, inclusive of the associated transmission needed for generation interconnection. That is, not separating out the transmission costs and subsidizing it in transmission rates.

A caller inquired if Massachusetts's goal of meeting 20% of its energy needs with renewable energy by 2020 allowed for importing renewable energy. Commissioner Hibbard replied that yes, if it is from within New England or a neighboring power region, such as New York, Québec, or New Brunswick and there is a tie to the contractual sale of power, it qualifies for the Massachusetts RPS. The caller posed a follow-up question, asking if the neighboring regions imposed the same restrictions. Commissioner Hibbard replied that he was unfamiliar with other regions's RPS policies, but noted that a national RPS with free flowing markets would be advisable, provided it does not supersede state RPS standards that might opt to be more restrictive.

A caller asked Commissioner Hibbard how net metering will be able to avoid the problem of curtailed electricity, noting that Minnesota had had an issue where \$10.4 million was lost due to curtailed electricity. Commissioner Hibbard replied that the utilities are protected by the two megawatt size cap. Any facility that interconnects to the distribution system also must comply with an interconnection tariff that addresses what a stand-alone facility must do to prevent itself from adversely affecting the system. He also said that there is a cap on the level of net metering within the state, set at one percent of load.

A caller noted that, with regards to net metering, Massachusetts had adopted a retail rate, as opposed to a wholesale rate, and inquired if that was passed to the ratepayers. Commissioner Hibbard confirmed that this was spread across all the distribution customers on a volumetric basis. Mr. Rybarik followed-up on this discussion, noting that the challenges of implementing net metering and facilitating the growth of intermittent resources necessitated a robust planning effort, with a goal to examine the issues from an interconnection-wide perspective. Commissioner Hibbard agreed.

A caller asked what the follow-up would be in New England after the New England Governors' blueprint report on renewable energy. Commissioner Hibbard responded that within a year, there should be a regional mechanism for long-term procurement. He mentioned that the states had summarized and reviewed opportunities to coordinate siting for any associated interstate transmission within each state's siting rules, and that current efforts were focused on establishing a joint measure to enable the region as a whole to issue generation solicitations. The caller mentioned that the Western Governors are working towards a similar goal, and asked if there had been any cross-regional discussion. Commissioner Hibbard answered that no, this plan was still in the early stages.

A caller stated that bundling transmission and generation costs leads to lower costs for customers. If there is a lot of wind in one area, the caller asked if it was cost effective system to have generators paying for their own transmission, as it leads to many smaller transmission lines rather than one larger one.

Commissioner Hibbard replied that there is a lot of new generation in New England, mostly gas, and all resulted from joint development with generators, utilities, and in many cases, natural gas pipelines. All of the generating projects compete on price, and the best price wins. He sees a similar process for regional joint procurement on renewable energy, in which development teams would assemble the best projects and produce a delivered price proposal, and noted that in the past, this type of partnership has been successful. The Commissioner stated that it would be beneficial for DOE or FERC to examine renewable energy development in all regions to see if the national RPS targets will be met. If not, the FERC should step in and require deficient regions to procure new renewables, and in that instance federal transmission backstop siting should apply.

Implications

SPP's proposed Highway-Byway rate design for new transmission is yet another regional initiative designed to crack the chicken-and-egg problem of building new transmission. With SPP's extensive wind resources, any progress on developing new transmission will likely result in significant new wind capacity. The devil is in the details, of course, and SPP will still need to get the necessary Board and FERC approvals when SPP proposes new transmission tariff language to implement the Highway-Byway rate design.

The potential of exporting wind from one region to another, such as from the Midwest to the East, and the cost of building the necessary transmission and how to pay for it, are topics that have been subject to considerable discussion since the release of the Joint Coordinated System Plan in 2008. The first set of interconnection-wide transmission plans may identify several opportunities for transmitting wind over long distances, but the ever-present question of cost allocation will continue to be a severe impediment until that is resolved.

For more Information

Jay Caspary, Southwest Power Pool
jcaspary@spp.org

Southwest Power Pool's Regional State Committee,
http://www.spp.org/committee_detail.asp?commID=35.

SPP, *New Integrated Transmission Expansion Planning Process and Cost Allocation Methodology Approved*, October 28, 2009.
http://www.spp.org/publications/New_Integrated_Planning-Cost_Allocation-10_28_09.pdf.

Brian Rybarik, Executive Assistant to Commissioner Lauren Azar, Wisconsin Public Service Commission
brian.rybarik@wisconsin.gov

Organization of MISO States
<http://www.misostates.org/>

Organization of MISO States's Cost Allocation Regional Planning meetings
<http://www.misostates.org/CARPMeeingList.htm>

Chairman Paul Hibbard, Massachusetts Department of Public Utilities
Paul.Hibbard@state.ma.us

New England Governors Renewable Energy Blueprint 2009,
http://www.negc.org/documents/2009/Renewable_Energy.pdf.

