

October 1, 2017

To: The Washington Utilities and Transportation Commission

Docket UE-160918

[submitted by email to records@utc.wa.gov](mailto:records@utc.wa.gov)

Re: The Difference between a WECC Path Rating and a Firm Commitment

Dear WUTC:

On August 21, 2017 I sent to you a document Re: “Documents that PSE erroneously claims prove the need for Energize Eastside.” In that document I pointed out that PSE load flow studies all had a fatal flaw. I indicated that the fatal flaw is that each load flow study includes a requirement that the PSE local transmission system must support a new ability of BPA to move 1,500 MW of power (or more) to or from the Canadian border under all weather and contingency conditions.

By this letter I clarify that it appears that PSE apparently based their flow assumptions to and from Canada on the WECC Path Rating for their Path 3: Northwest to Canada. PSE seems to be treating these WECC Path ratings as if they were Firm Commitments. That is a mistake.

WECC Path Ratings are a far different thing than a Firm Commitment. A WECC Path Rating is very similar to what other parts of North America call a “System Operating Limit” (SOL). The System Operating Limit is the maximum amount of power that can be put across a path no matter how favorable the conditions are. That value is much higher than a Firm Commitment value since Firm Commitments need to be honored under adverse conditions.

The Path Rating concept, and its difference from a Firm Commitment, has been clearly articulated by the Nevada Commission as they studied existing transmission grid in the state of Nevada. See the document at the link below.

http://energy.nv.gov/uploadedFiles/energynvgov/content/NEAC_FinalRpt-Section4-StrategicTransmissionDiscussion.pdf

Section 4.3.2 of that report provides the following information: [I have emphasized key statements in this information by underlining and bolding the text]

The WECC Glossary Proposal defines a “Transfer Path” as:

An element or group of elements (transmission lines, transformers, series capacitors, buses or other pieces of electrical equipment interconnecting control areas or parts of a control area) over which a Schedule can be established.

On a yearly basis, the WECC publishes the WECC Path Rating Catalog. It is a collection of discussions on individual path ratings within the WECC system. As defined within the Catalog, a “Path” is composed of an individual transmission line or a combination of parallel transmission lines. A “Transfer Path” may be composed of transmission lines between control areas or internal to a control area, or a combination of both.

The path rating for most paths is dependent on a multitude of electrical system conditions. If the system conditions are favorable, the path rating will increase. Unfavorable system conditions tend to result in a decreased path rating. As a result, path ratings typically vary over a range, from a maximum value to a minimum value. **In normal WECC parlance, path ratings fall into one of three categories: non-simultaneous, simultaneous, and/or firm. Non-simultaneous path ratings represent the maximum path rating for the most favorable combination of system conditions. From a probabilistic perspective, only rarely are all the system conditions optimum, so at any point in time, the prevailing “operational” path rating is almost always less than the non-simultaneous rating. The path ratings listed in the WECC Path Rating Catalog are non-simultaneous “maximum” path ratings.**

The last sentence in this writing is the key one for purposes of running load flows to demonstrate the need for Energize Eastside. It says **“The path ratings listed in the WECC Path Rating Catalog are non-simultaneous “maximum” path ratings.”** Clearly for a WECC load flow study this path rating can only be accomplished when system conditions are optimum. It is not a Firm Commitment.

The information provided at the link above goes on to clarify as follows:

Firm path ratings represent the minimum value of the range of a path rating. Firm transmission rights are transmission rights guaranteed to be useable, with the possible exception of transmission line outages or other unusual circumstances or emergency conditions. Transmission providers can sell firm transmission rights up to this value, since the operational path rating is at or greater than this value virtually 100% of the time.

PSE is treating the WECC Path Rating for the Northwest to Canada path as if it is a Firm Commitment. Clearly it is not. Clearly the WECC Path Ratings for Path 3: Northwest to Canada can only be met under the **“most favorable of combination of system conditions.”**

When PSE studies the needs of its local system by assuming (a) a very cold winter condition, and (2) most all of its Puget Sound Area generation off line then PSE is not studying “the most favorable of combination of system conditions.” In fact, PSE is studying a very unfavorable combination of system conditions. Since there are no Firm Commitment commitments to move anywhere near that amount of inter-regional power assumed by PSE in its load flow studies by or for anyone, their load flow studies cannot legitimately include these inter-regional transfers. These PSE load flow studies all need to be rerun without these non-required inter-regional flows. **It is completely inappropriate for PSE to treat WECC Path Ratings for the Northwest to Canada path as if they were Firm Commitments.**

PSE claims that FERC has ruled the PSE properly dealt with Energize Eastside and ColumbiaGrid. But we need to be clear on what FERC said. FERC points out that if a utility like PSE intends to make improvements to its local transmission system, then PSE would need to have ColumbiaGrid study to assure that the proposed PSE improvement (e.g. Energize Eastside) does not adversely impact a neighboring utility. The first step in that process would be for ColumbiaGrid to determine what the grid could do without Energize Eastside. Then add Energize Eastside to the study to see if the grid can no longer do what it was able to do without Energize Eastside. In this case, **there has been no demonstration that the grid can meet WECC Path 3 Northwest to Canada path rating levels under these adverse system conditions of very cold winter weather and PSE Puget Sound Area generation**

off line without Energize Eastside. There is no need for PSE to demonstrate that these Path Ratings can be met with Energize Eastside since the grid cannot meet these Path Ratings without Energize Eastside. (It is difficult to imagine how the addition of Energize Eastside could adversely impact the ability of BPA to deliver power to or from Canada. There is no requirement that Energize Eastside *improve* the ability of BPA to move power to or from Canada.)

Sincerely,

Richard Lauckhart
Energy Consultant
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On behalf of a large number of citizens that are concerned about transmission matters in the greater Bellevue area.

cc: IRP Advisory Group members