

## Misinformation presented in the Lauckhart-Schiffman Load Flow Study

3/25/16

Puget Sound Energy reviewed the Lauckhart-Schiffman Load Flow Study, put together by a neighborhood group opposed to the project. The study has made a number of claims and assumptions that are simply inaccurate.

The Lauckhart-Schiffman Load Flow Study is flawed on several levels:

### **The study erroneously interprets power flows to Canada.**

The Lauckhart-Schiffman study erroneously states that PSE modified data to increase transmission of electricity to Canada from 500 MW to 1,500 MW. PSE does not set the value of the power that flows to or from Canada. Any implication that PSE “modified” that number to justify building infrastructure is completely wrong.

Flows to and from Canada for planning purposes are set by the regional planning authority (ColumbiaGrid) in conjunction with other regional utilities. When a transmission planner in the Northwest runs modeling studies they use the regional authority’s 1,500 MW in their model; it does not matter if the transmission planner works for Seattle City Light, Snohomish County PUD, Tacoma Power or PSE. The 1,500 MW of power flow to Canada is not set by PSE and does not flow through Bellevue on PSE’s system; the 1,500 MW is the load flow that is modeled for the entire region (Washington, parts of Montana and Canada). This is the modeling requirement – a requirement that is spelled out quite clearly in ColumbiaGrid’s Biennial reports (excerpt below).

*“As required by the NERC Reliability Standards and ColumbiaGrid Planning and Expansion Functional Agreement (PEFA), it was necessary to model firm transmission service commitments in the System Assessment....Both of these firm transmission service commitments are on the west side of the path, thus 1,500 MW of transfers are modeled in the south to north direction in heavy winter cases.” – [2016 Update to the 2015 Biennial Plan, pgs. 49-50, ColumbiaGrid](#), February 2015.*

The Lauckhart-Schiffman study fails to stress the electric system as required by federal standards. Federal standards require transmission planners to “stress” the system (i.e., take infrastructure and generation elements out of service to see if the lights stay on) with rigor. Specifically:

- Mandatory Federal requirements, NERC TPL-001-4, require the simulation of contingency categories in variations of N-0, N-1, N-1-1 and N-2. The Lauckhart-Schiffman study appears to have reviewed only limited N-0 and N-1-1 contingencies. (See pages 6-9, Lauckhart-Schiffman Study).
- PSE ran 35,000 unique contingencies (stressing the system by taking elements out of service) while the Lauckhart-Schiffman study ran only one contingency. Specifically, the Lauckhart-Schiffman study only tested two transformers being out for an N-1-1 contingency. The study failed to test any contingencies with lines out and failed to study the summer season conditions.
- The difference in rigor of analysis reveals itself in the number of problems identified. PSE’s comprehensive studies identified 12-40 different problems over the 5-10 year study period. The Lauckhart-Schiffman study only tested one contingency scenario according to their written

analysis and found no problems. When you only study one scenario (as compared to PSE's 35,000 contingencies), it is not surprising that you do not find a problem.

The Lauckhart-Schiffman study falls short and does not meet the level of rigor required by federal standards. By not conforming to mandatory transmission planning standards, the study is incomplete and reaches unusable conclusions.

### **The Lauckhart-Schiffman study uses an incorrect growth rate for the Eastside.**

The Lauckhart-Schiffman study erroneously uses a .5% growth rate. That is the growth rate for PSE's entire 6,000 square-mile service territory – made up of eight counties that include communities such as Yelm, Cle Elum, Bellingham, Sedro-Woolley, Enumclaw, etc. The Eastside is growing faster than the rest of PSE's service territory. Projections, based on independent numbers from the Puget Sound Regional Council (PSRC) and the individual cities, show a 2.4% growth rate for the Eastside – growth you can see when you look out your window or walk down the streets of Bellevue.

### **There is no local generation in Bellevue.**

All the "local generation" that the Lauckhart-Schiffman study refers to is located outside of King County; there is no local generation in Bellevue. The problem Bellevue and the Eastside is facing is a delivery problem not a generation problem. To be clear, PSE could potentially solve this problem by building generation on the Eastside – a solution Mr. Lauckhart has suggested at public meetings. However, in our opinion, siting a 300 MW generation plant on the Eastside is much more impactful than replacing existing power lines in an existing utility corridor.

PSE (and USE) did study a variety of generation scenarios, as required by the federal rules. It doesn't matter which generators are turned on or off when analyzing problems with the Eastside transmission delivery system. That is because the problem is delivery of power into the Eastside. Regardless of where the generators are located outside the Eastside area, there is insufficient transmission capacity to bring the power into the Eastside communities where it is needed.

### **The study confuses planning standards with day-to-day operations.**

Planning requirements use specific modeling criteria – criteria that are based on projections. In error, the Lauckhart-Schiffman study looks at load flows from an operations perspective. For example, the Lauckhart-Schiffman study makes a conclusion that regional grid coordinators would unlikely continue to deliver 1,500 MW to Canada in an emergency setting. (See Lauckhart-Schiffman Load Flow Study, p. 3.) In doing so, Lauckhart and Schiffman are making an observation regarding how an electric system operator may potentially operate the system in an emergency situation, which is irrelevant to planning. Fundamentally, like many businesses, PSE plans to forecasts and operates in real-time. PSE's modeling and planning assumptions are consistent with NERC, WECC and ColumbiaGrid's Planning and Expansion Functional Agreement. The planning requirements are rigorous and do not allow utilities to count on temporary operational measures that may be called upon in emergencies.

Why does PSE (and all other transmission planners) do this? When PSE plans to rigorous criteria with consideration to system contingencies, then operators in real-time will have a system that can keep the lights on, even if the actual real-time operating conditions differ from ideal conditions.

## **The Lauckhart-Schiffman study ignores prior studies.**

Through the Lauckhart-Schiffman study, as well as public presentations of the study, there is an implication that PSE has manipulated or “fudged” data to create a need and justify this project. These implications are wrong, and improperly represent the integrity and skill of our transmission planning professionals. PSE has studied the system thoroughly and carefully and so have multiple independent experts. The integrity and quality of PSE’s transmission system planning work is exemplary. PSE’s team knows how to model and plan electric infrastructure. They know the federal rules around reliability. And, they have identified a serious deficiency in the system that brings power to all homes and business in Bellevue and other Eastside communities. This deficiency has been validated by numerous independent studies, including the City of Bellevue’s independent expert, Utility System Efficiencies, Inc. (USE).

The problem facing the electric system that serves all homes and businesses in Bellevue is real. It has been validated by numerous independent industry experts. The assumptions and conclusions the Lauckhart-Schiffman study sets out were also argued by Mr. Lauckhart in the CENSE complaint to the Federal Energy Regulatory Commission (FERC). FERC rejected these conclusions. FERC, in rejecting these conclusions, stated:

*“Contrary to Complainants’ vague allegations that the Respondents have violated [Federal transmission planning regulations], the record before us shows that [PSE] and the other Respondents have complied with the applicable transmission planning requirements.”* – [Federal Energy Regulatory Commission \(FERC\)](#), Oct. 21, 2015

The work of PSE’s transmission planners has been validated by independent experts. Excerpts from two independent studies are below.

- Bellevue’s independent expert, Utility System Efficiencies, Inc. (USE), stated:

*“Is the EE project needed to address the reliability of the electric grid on the Eastside? YES.”* – [Independent Technical Analysis of Energize Eastside, by Utility Systems Efficiencies, Inc.](#), April 28, 2015

- The EIS subcontractor, Stantec, stated:

*“Based on my expertise, I found that the PSE needs assessment was overall very thorough and applied methods considered to be the industry standard for planning of this nature. Based on the information that the needs assessment contains, I concur with the conclusion that there is a transmission capacity deficiency in PSE’s system on the Eastside that requires attention in the near future.”* - [Review Memo by Stantec Consulting Services Inc.](#), July 31, 2015

Please note, contrary to statements made by CENSE, USE did run load flows in its review of our studies, including studies surrounding generation and Canadian modeling requirements.

## **The Lauckhart-Schiffman study reaches irrational conclusions.**

The Lauckhart-Schiffman study concludes that the existing system will last until 2058. The notion that a system built in the 1960s, for the Eastside’s current and future load demands, could last almost 100 years - until 2058 - is exceedingly unlikely. No electric utility system has that longevity.

Electrical transmission system planning is a complex and rigorous exercise, performed by industry experts with the experience in and understanding of federally-mandated system planning

requirements. The need for this project has been firmly established several times by multiple independent experts, as well as PSE. These studies have confirmed that a solution to provide reliable power for local Eastside customers must be implemented by the winter of 2017-18 to avoid risking power outages.

The Energize Eastside project will provide the necessary infrastructure to meet federally-mandated requirements without having to plan for rotating blackouts and without having a public discussion of the need to plan for blackouts. Combined with continued aggressive electric conservation, Energize Eastside will keep the lights on for homes and businesses in our Eastside communities for years to come.