EXHIBIT
DRK-33X

BEFORE THE HEARING EXAMINER
FOR THE CITY OF BELLEVUE, WASHINGTON

In Re Puget Sound Energy, Inc. Energize Eastside Conditional Use Permit File No. 17-120556-LB and Critical Areas Land Use Permit File No. 17-120557-LO	No. 17-120556-LB 17-120557-LO DECLARATION OF RICHARD LAUCKHART REGARDING PROJECT NEED

Richard Lauckhart, under penalty of perjury under the Laws of the State of Washington, declares as follows:

1. I am over the age of 18 and competent to testify as a witness in this matter.

2. I am an expert witness for Citizens for Sane Eastside Energy (CSEE), an Eastside citizens' group opposed to PSE's "Energize Eastside" project. I am co-author of the Lauckhart-Schiffman load flow report on the need for Energize Eastside.

3. I am uniquely qualified to testify in this matter given (a) my work experience (including 22 years as an employee and then officer of Puget Power), (b) my testimony before the California PUC on modeling of transmission needs (where the California PUC accepted me as an expert on the topic), and (c) the large number of documents I have filed with the City of Bellevue in this matter.

4. Attached is my detailed statement setting forth why there is no demonstrated need for Energize Eastside. The information it contains is true. Also attached hereto are two documents referenced in my statement as Attachments 1 and 2, both of which are true and complete copies.

Dated this 16th day of March, 2019.

Richard Lauckhart

Richard Lauckhart

Why Energize Eastside is Not Needed
Richard Lauckhart

Outline of Comments

I. Historical timeline of significant events and how I got involved

II. Data showing Energize Eastside is not needed

III. The problems with the PSE/Quanta load flow studies

IV. The problems with the Mike Brennan recommendation document

V. PSE's CUP application fails to satisfy Bellevue's land use criteria

VI. PSE's arbitrarily proposing a third of Energize Eastside being built within Bellevue city limits, i.e. the "Talbot Hill/Lakeside Transmission Line" (THLTL), risks creating a bridge to nowhere

I. Historical timeline of significant events and how I got involved

A. Before I retired from Puget Power in 1996 as Vice President of Power Planning, we had a continuing need to determine how we would be able to reliably serve the growing loads on the east side of Lake Washington. As those loads grew, we regularly examined options for serving the growing loads. The alternative of adding another 230/115 KV transformer at Lakeside was always considered. But in every instance, we found better alternatives which we built instead.

B. In approximately 2009, BPA was asking ColumbiaGrid and its member utilities (including PSE) to study how BPA may be able to increase its ability to transfer power to the Canadian Border. The Puget Sound Area Study Group of ColumbiaGrid was looking at several alternative approaches to accomplish the BPA request. What is now called the Energize Eastside Project (formerly called the Sammamish-Lakeside-Talbot project) was one of the alternatives being considered as part of a Regional Plan to accomplish what BPA wanted to have accomplished. Eventually PSE told ColumbiaGrid that it would be building the Energize Eastside project on its own to meet PSE needs on the Eastside and they would also assure the project met BPA needs as well. So ColumbiaGrid stopped studying the matter and PSE told ColumbiaGrid and WECC that they were committed to building the project.

C. Shortly after this ColumbiaGrid activity the City of Bellevue (the City) retained Exponent to perform an electric system reliability assessment to assist the City in meeting its goals to be an informed stakeholder and to work with Puget Sound Energy (PSE) to ensure a reliable electric power supply for the City. In February of 2012 Exponent published its "City of Bellevue Electrical Reliability Study Phase 2 Report," which was a 192-page report that covered all aspects of reliability in the City of Bellevue. [4031-4222]. At section 2.3.5, pages 45-49 of this 192-page document, there is a brief discussion of Risk Analysis—Bulk Power Transmission System for Bellevue. This section indicates the information came from interviews

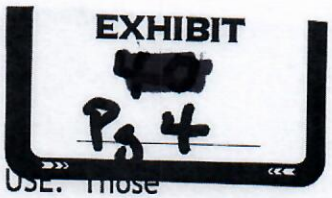
with PSE Transmission Planners. This section ends with the following sentence: "Conversion of one of the 115 kV lines between Talbot Hill and Sammamish to 230 kV and installation of a 230/115 kV, 325 MVA transformer in the Lakeside substation will also be needed to support the region's expected future growth." Exponent performed no load flow studies itself, it simply wrote this sentence based on what PSE staff told ColumbiaGrid and Exponent representatives.

D. In 2013 Macquarie/PSE contracted with Quanta to perform an Eastside Needs Assessment. This was a major deviation from how Puget had always studied the need on its system. In all my years at Puget we never hired an outside firm to study the needs of our transmission system. We always used our in-house transmission load flow experts and industry standard computer modeling systems. But the new owner of PSE (Macquarie) was and is known to use Quanta for load flow studies it does elsewhere in the United States. Based on how pliable Quanta was in grossly manipulating data to reach a preposterous N-8 scenario to justify Energize Eastside (far beyond the N-1-1 required[1]), I submit Macquarie chose Quanta rather than PSE's in-house experts in order to produce load flow studies to its liking.

E. Shortly after Quanta wrote its Eastside Needs Assessment reports the citizen grass-roots organizations CSEE and CENSE became concerned about how Macquarie made their load flow runs, and why Macquarie made the decision to require their load flow runs to enhance BPA's ability to move power to the Canadian Border. CENSE encouraged the City of Bellevue to engage an independent consultant to perform an independent Technical Analysis of the Energize Eastside Project. The City chose the consulting firm Utility System Efficiencies (USE). USE provided a report to the City of Bellevue dated April 28,2015.

F. On May 1, 2015, I was contacted by a person from CENSE to help them understand technical issues surrounding the Energize Eastside project. Before that contact I had not followed any of this Energize Eastside activity since I left Puget in 1996. I was asked to immediately review the Quanta studies and the USE report. There were things I found in the Quanta Report and the USE report that immediately raised red flags to me, namely the 1,500 MW to Canada and the shutting down of Puget Sound Area generators on a very cold winter peak load hour. The decision to shut down the Puget Sound Area generators was particularly troubling to me so I called the lead transmission planner at PSE (Kebede Jimma) whom I knew from my years at Puget, and I asked why that was done. His answer was shocking to me. He stated he did not know why that was done since he was not asked to be on that project by the senior people at PSE. USE was scheduled to present their findings to the Bellevue City Council on May 4, 2015. I was asked by CENSE to help them prepare questions for Bellevue City Council member Jennifer Robertson. At that

[1] The difference between the N-1-1 event planners must plan for and the absurd N-8 scenario Quanta had to invent to justify the project is explained in Paragraph J below.



meeting Ms. Robertson asked several questions of Peter Makin of USE. Those questions and answers can be found in Attachment 1 to this statement at page 6. Q&As from that Bellevue City Council meeting that remain of note are: (1) USE admits that 4 of the 5 overloads in its studies go away if the 1,500 MW to Canada is eliminated; (2) USE did not run all the Puget Sound Area generation, and (3) a third 230/115 KV transformer at Talbot Hill may be able to solve all the perceived reliability problems without building the Energize Eastside line; but Makin testified USE was not asked to look at alternatives to the Energize Eastside line.

G. Following these activities, CENSE and CSEE wrote a letter on May 8, 2015, to the CEO of PSE (Kimberly Harris) asking her to have ColumbiaGrid re-run the Quanta load flow studies as part of a Regional Plan and have all the generation in the Puget Sound Area operating in their studies. PSE responded by letter on May 22, 2015, in which they stated that "PSE will not be asking ColumbiaGrid to conduct additional studies on your behalf."

H. Then CENSE and CSEE filed a complaint with FERC to require ColumbiaGrid to do the studies. But in its decision dated October 21, 2015, FERC ruled it did not have the authority to require ColumbiaGrid to do the studies.

I. Meanwhile, I asked PSE to provide me the Quanta load flow studies, but they refused. So, I asked FERC to provide me the PSE Base Case load flow studies that PSE is required to file with FERC. FERC provided me those PSE Base Cases on September 2, 2015. I observed that these Base Cases had better assumptions about flows to Canada and better assumptions about Puget Sound Area generation than those used by Quanta and USE. So, I recruited a colleague Roger Schiffman and he leased the standard load flow model GE-PSLF, and in December 2015 we re-ran the Quanta studies ourselves. ***We found that if we used the PSE Base Case there is no need for Energize Eastside. We found that if we changed the flows to Canada to 1,500 MW and shut down Puget Sound Area generation that there was voltage collapse in the Puget Sound Area, a result that would not be tolerated by FERC.***

J. Schiffman and I published our studies on February 18, 2016. FERC requires studies to be run under no contingencies (N-0), one contingency with a major element of the grid removed for forced outage (N-1) and with a second element being removed immediately after the first failure (N-1-1). Schiffman and I did those contingency studies. But when Quanta additionally shuts down 6 power plants in the Puget Sound Area you arrive at a surreal result: N-8.[2] That is like saying the only acceptable way to kill a fly is with a shotgun. N-8 is wildly far beyond what FERC requires in a planning study (N-1-1) and way beyond Prudent Utility Practice.

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[2] An N-8 occurrence has the loss of 6 more major elements of the grid than what FERC/NERC say you should be doing in your studies, i.e. N-1-1. They believe you should not be overbuilding the system to cover for events that have negligible probability of occurring.

Yet Quanta, no doubt getting its marching orders from Macquarie/PSE, had to resort to taking such extremes in order to arrive at a result that could justify Energize Eastside.

K. Early in their work on the EIS for Energize Eastside, the City of Bellevue retained Stantec to advise them on technical matters related to the EIS work on Energize Eastside that the City was conducting. There is no evidence that Stantec ran any load flow studies of its own. There is no evidence that Stantec has any load flow expertise in its Bellevue office. Stantec has transmission system design expertise but that is far different from load flow expertise. The City of Bellevue asked Stantec to respond to many of the criticisms of the Energize Eastside studies that I gave to the Bellevue EIS staff. Stantec seems to have simply asked PSE if I was right or not and then parroted that answer back to the Bellevue EIS staff. Stantec has performed no study of its own that demonstrates that Energize Eastside is needed.

II. Data showing Energize Eastside is not needed

As outlined above, there have been a number of experts who have been involved in aspects of the Energize Eastside project ("EE"), namely: Quanta; Utility Systems Efficiencies (USE); Stantec, and Exponent. Yet *none* of them has ever undertaken a detailed load flow study that demonstrates that EE is needed. At a minimum, PSE's burden of proving project need cannot be met without standard load flow studies (and all data input into the computer models disclosed) are shown to have been responsibly done. Twice I have requested that PSE provide me any such detailed load flow study data for inspection and have been rebuffed both times by PSE in which their reasoning for rejecting my requests makes no sense. ***The bottom line is that there is no legitimate evidence advanced in this and all other proceedings so far that EE is needed.***

But there is legitimate evidence that Energize Eastside is not needed. That evidence is provided in the Lauckhart-Schiffman load flow study report [4704-4741]. It concludes clearly that EE is not needed now or anytime soon.

The Lauckhart-Schiffman load flow study is easily reproduced. Just get the Base Case load flow study that PSE filed with FERC and make the minor changes that we made to see if the PSE/Quanta load flow model would actually work without causing voltage collapse in the Puget Sound region. Surely PSE has tested what we did. That would be a very easy thing for them to do. But PSE has not brought in evidence that the Lauckhart-Schiffman study was flawed other than their claim that we should have (a) required large flows from the Columbia River over the Cascades, then through the Puget Sound Region, then on to the Canadian border at Blaine, and (2) shut down 6 large gas fired power plants owned/controlled by PSE in the Puget Sound region. But those assumptions make no sense and would cause voltage collapse in the Puget Sound Region.

Voltage collapse is characterized by a loss of control of the voltage levels in a power system. Although all of the precise mechanisms that affect voltage collapse have not yet been identified, voltage instabilities are known to occur when the power system is operating under a stressed state. Voltage Collapse results in power outages to a large number of customers. PSE apparently was able in its computer modeling to avoid the voltage collapse problem by adding a 70-mile 500KV Transmission Line from Troutdale, Oregon to Castle Rock, Washington. But while that project was once proposed by the Bonneville Power Administration (BPA), that project has since been canceled by BPA. Its absence now renders as fatally flawed all of the previous PSE/Quanta and USE load flow studies.

The Bellevue Director, Development Services Department (Mike Brennan) published his recommendation on the PSE CUP application for Energize Eastside on January 24, 2019. That recommendation is not consistent with the evidence that was provided to him. For example, his published recommendation did not even mention the December 11, 2017 comments (and 17 supplemental attachments to those comments) I made on the PSE CUP Application. [11749-11757]. I will detail some of those problematic inconsistencies in Section IV below.

In summary, there is no legitimate evidence on record that EE is needed. There is legitimate evidence that EE is not needed now or anytime soon.

The PSE CUP Application for Energize Eastside should be rejected.

III. The problems with the PSE/Quanta load flow studies

The PSE/Quanta load flow studies are fatally flawed. Note the following assumptions that were the basis for PSE/Quanta load flow studies that they claim demonstrate the need for Energize Eastside:

1. The load flow studies assumed that the temperature would be 23 degrees F during the winter peak load hour *(typically the 6PM - 7 PM hour on a weekday when customers come home from work, turn up the heat, use hot water often resulting in water heat demand, turn on lights, start cooking dinner, etc.)* on PSE's system. These cold temperature and hour-and-day conditions occur only ***for one hour*** in every 4 years or so. Obviously a very low probability event.
2. The conditions PSE/Quanta studied <u>also simultaneously</u> had 1,500 MW flowing to Canada. But "Peak" (the NERC designated Reliability Coordinator company responsible for ensuring reliability in the Northwest with main office in

Vancouver, Washington) would never let 1,500 MW go to the Canadian border under such a situation.[3]

3. The conditions PSE/Quanta studied also simultaneously shut down all Puget Sound Area gas-fired generation which "Peak" would never let happen if that might cause outages.

4. The conditions PSE/Quanta studied also simultaneously removed two 230/115 KV transformers from service on forced outages.

Because of "Peak" oversight and other reasons this set of assumptions that PSE used in its studies will never occur. **These PSE/Quanta studies are a sham, as are the USE, Stantec and Exponent analyses to the extent they are based on them.**

IV. The problems with the Mike Brennan recommendation document

A. The evidence that I have provided to Mike Brennan and his staff makes the following points very clear:

1. Only a properly run load flow study can tell if a transmission line is needed or not.

2. It is not possible for the transmission grid to deliver 1,500 MW to Canada on a heavy winter peak day with or without Energize Eastside having been built. Any load flow study that is moving 1,500 MW to Canada on a heavy winter peak day has been improperly performed.

3. PSE claims it has a load flow study that is moving 1,500 MW to Canada but refuses to show us the studies so it can be verified. If PSE has a legitimate load flow study that shows this can be done, they certainly would have made it available for inspection. Mike Brennan and his staff have not insisted that PSE make its load flow studies available for inspection. Other cities will be requiring this. It is unclear why Mike Brennan and his staff have not required PSE to make these load flow studies available for inspection by stakeholders and their CEII-approved experts.

4. I have provided Mike Brennan and his staff the Lauckhart-Schiffman load flow study that makes it clear if such a study is properly run, then Energize Eastside is not needed, now or any time soon. [4704-4741]

5. I have provided Mike Brennan and his staff a document rebutting PSE's criticisms of the Lauckhart-Schiffman load flow study and which contains

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[3] "Peak" is the NERC entity designated to assure the power system in the Northwest is operated in a reliable manner. For example, in the "day-ahead" and "hour-ahead" timeframe Peak studies (a) utility proposed transmission schedules between utilities and (b) utility proposals on which generators they plan to run to meet their load. If Peak determines any such proposed transmission schedule or planned generation operation might cause a system outage, Peak will order the utility to change its plans for the next day or next hour. See https://www.peakrc.com/RCDocs/Reliability%20Coordinator%20Plan%20v3.0.pdf

questions/challenges to PSE to respond to regarding those criticisms. [4587-4593]. PSE has never responded to those questions/challenges. Mike Brennan and his staff have not required PSE to so respond. It is inexplicable and inexcusable that this was not done.

B. The Mike Brennan recommendation document is 151 pages long. There are a number of items in that large document that deal with the need for Energize Eastside. Need is a critical finding that Mike Brennan and his staff need to make before they can recommend approval of the CUP. On Page 87 of the Mike Brennan document it is stated that "*A selection of public comment received are* [sic] *included in the below summation.*" My comments are not sufficiently included in this selection because Mike Brennan and his staff have not listed them as something that needed to be responded to. They give no reason as to why they decided not to list many of my comments and why they have chosen not to respond to them. Further, the Responses to the "themes" in the selection that is included starting on page 88 do not properly reflect the comments that were provided to Mike Brennan and his team. For example:

1. [Project need continued] Comment Issue Summary page 90:

   Comment Issue Summary: *"PSE's model used flawed assumptions by employing winter-time load factors combined with lower, summer-time capacity factors. PSE also ignored the possibility of "voltage collapse", which would cause widespread blackouts at the level of electrical load modeled, calling into question the accuracy of the model results."*

   Response: *"The City hired Utility System Efficiencies, Inc. (USE) to evaluate scenarios independently. USE used summer ratings with summer loads and winter ratings with winter loads, and confirmed that there would be violations (overloads) in both heavy winter and heavy summer scenarios (see USE 2015). Voltage collapse was not identified as an issue in this independent analysis of the system."*

   Problem with this response: It is very clear from the Lauckhart-Schiffman load flow study that this voltage collapse problem exists because a simple change to the PSE Base Case load flow study that PSE provided to FERC demonstrates that this problem exists. Mike Brennan and his team never required USE to explain how it avoided this problem and never required USE to provide the files associated with its work. PSE has provided the "Electrical Performance Criteria" that was used in its load flow studies. [011157]. From that criteria it is clear that PSE/Quanta included the BPA I-5 Reinforcement project (*a 70-mile 500KV transmission line from Troutdale, Oregon to Castle*

Rock, Washington) that BPA had once proposed to build.[4] This line would help move power into the Puget Sound Area load pocket if it were built. But on May 17, 2017 BPA formally announced that it canceled this project, and the PSE/ Quanta load flow modeling erred in including this line. It is clear that USE used the PSE faulty data set rather than the Base Case data files that PSE provided to FERC. If Mike Brennan and his staff want to know how USE was able to avoid this problem they should have first asked if USE started with the Base Case that PSE filed with FERC or if they started with the improperly modified Base Case that Quanta used. We still don't know the answer to this fundamental question.

The staff recommendation did not properly evaluate this matter.

2. [Project need continued] Comment Issue Summary page 90:

Comment Issue Summary: *"The needs analysis used a flawed assumption regarding the amount of power flowing to Canada. "*

Response: *"For PSE's needs assessment, PSE relied on ColumbiaGrid's determination that the 1,500 megawatt (MW) flow should be considered a firm commitment and was therefore required to be in its model."*

Problem with the Response: That is simply not true. There is no such "firm commitment," which are words of art in power planning[5]. This response

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[4] PSE/Quanta included the now canceled BPA I-5 Reinforcement Project in its studies:

1) The document at [011157] describes the "Electrical Performance Criteria" that Quanta used. Note items 8 and 2 which say, in effect, that all future planned transmission system improvements through the year 2024 were added to the PSE Base Cases. [Recall that the Quanta studies were done starting in 2013].

2) The ColumbiaGrid 2013 System Assessment says that the future committed projects listed in Table E-2 were modeled in the Base Cases. These projects are more fully described in Attachment B.

3) Table E-2 to the ColumbiaGrid 2013 System Assessment says the I-5 Corridor project will be on line prior to 2024 because 2024 is after 2013 plus 10 years.

4) Attachment B to the ColumbiaGrid 2013 System Assessment describes the BPA I-5 Corridor project.

Bottom Line... Quanta included the 70 mile 500 KV transmission project from Troutdale, Oregon to Castle Rock, Washington in their load flow study on the need for Energize Eastside. That may be how Quanta was able to avoid voltage collapse. But this I-5 project has now been officially cancelled by BPA. That means the Quanta studies would need to be redone for this reason also. Redo their studies without the 1,500 MW to Canada, redo their studies with all Puget Sound Area generation running. Redo their studies without this BPA I-5 Corridor project (and maybe many other previously planned additions which are not proceeding).

The Lauckhart-Schiffman study makes these corrections and finds that the Energize Eastside project is not needed now or any time soon.

[5] A "firm transmission commitment" is a transmission commitment guaranteed to be useable under all weather and contingency outage conditions, with the possible exception of transmission line outages or other unusual circumstances or emergency conditions. Such a firm transmission commitment is evidenced by the existence of a contract providing for such a firm commitment that describes who is giving that commitment and who is getting it.

completely ignores a document I provided to Mike Brennan and his staff in which ColumbiaGrid stated unequivocally that it did not make such a determination. [4594-4596]. Instead, a staff member at BPA allegedly told ColumbiaGrid this erroneous statement and ColumbiaGrid simply repeated what that BPA Staff person said without verifying it to be true. The document I provided to Mike Brennan and his staff pointed out that a BPA attorney stated in response to a Public Records Act request that they could not find any documents that supported this statement. [4567-4571]. It is unclear why Mike Brennan and his staff would ignore these important facts.

3. [Project need continued] Comment Issue Summary page 91:

   Comment Issue Summary: *"The need analysis used flawed assumptions regarding PSE power generation during cold weather events. "*

   Response: *"The City is aware of the assumptions that were used in PSE's needs assessment. The Quanta Eastside Needs Assessment Report and Quanta Eastside Supplemental Needs Assessment Report indicated that the reason power generation was lowered was to facilitate south to north flow across the Norther Intertie, as indicated by ColumbiaGrid. USE in 2015 also evaluated scenarios assuming PSE's power generation was running and concluded there would still be a need for the capacity improvement."*

   Problem with this response: There are multiple problems with this response. First, any allegation that the lowering of generation was to facilitate south to north flow across the Northern Intertie is baseless. The WECC Path Rating catalog for this Northern Intertie (Path 3) stated unequivocally that restrictions occur in the south to north direction when Puget Sound area generation level is low both in heavy winter and summer conditions. Any suggestion that flows to Canada can be increased by lowering Puget Sound area generation indicates a failure of understanding of how the system works. Second, the statement in the Response that USE evaluated a scenario assuming PSE's power generation was running ignores the reality that Peter Makin of USE testified to the Bellevue City Council that he did ***not*** know how much Puget Sound Area generation that USE included in their studies. See page 6 of Attachment 1 to these comments. Third, as stated in item 2 above, ColumbiaGrid never independently examined if there was a Firm Requirement to deliver 1,500 MW to Canada and BPA has stated it has no document that says such a Firm Requirement exists. A chief spokesman for PSE's EE project, Mark Williamson, has conceded that if the 1500 MW to Canada is not a firm commitment, then the load flow studies need to be redone. See video at https://youtu.be/UixzsxOmPic]. Indeed, those studies need to be redone, and absent that being done PSE's current CUP application must be denied.

4. [Project need continued] Comment Issue Summary page 91:

Comment Issue Summary: *"An alternative needs analysis found that there was only one deficiency when 1,500 MW flows to Canada were eliminated. "*

Response: *"The USE 2015 analysis did find that most of the problems identified by PSE planners would be eliminated in the Heavy Winter Scenario if the flows to Canada were curtailed, but also found that one transformer would be at risk, even if the Canadian flows were eliminated."*

Problems with this Response: This response completely ignores the March 28, 2016, letter to the City of Bellevue where I state *"PSE likes to quote the conclusion of the study performed by Utility System Efficiencies, while ignoring the most stunning finding of the USE report. On page 65 of that report USE found that 4 of the 5 overloads on PSE's system disappear if the electricity exports to Canada are reduced. The remaining overload is so minor that it could easily be remedied with a relatively inexpensive upgrade to a single transformer or simply by turning on more Puget Sound Area generation."* [emphasis added]. [4591]. This response also ignores the expert report I provided to Mike Brennan and his staff that provides the list of alternatives that need to be considered by PSE if a legitimate reliability problem is ever found on the Eastside. [5193-5203]. It also ignores USE's Peter Makin's testimony to the City of Bellevue that he did not look at alternatives to EE to solve any identified reliability problem because the scope of work he was given did not ask him to look at alternatives to Energize Eastside. This statement can be verified by reading the minutes of the May 4, 2015 Bellevue City Council Study Session. See page 6 of Attachment 1 to these comments.

5. [Project need continued] Comment Issue Summary page 92:

Comment Issue Summary: *"Better alternatives are available that are less expensive, safer, and/or more reliable. The City should require PSE to pursue other alternatives, such as batteries, solar, and other non-wire alternatives. These alternatives were not adequately evaluated as part of this Project."*

Response: *"The City has a duty to review a project as proposed by the applicant, in this case PSE. The City can only decide if the proposed Project is consistent with City rules and regulations. While the City did review many of the alternatives described in comments in the Phase 1 Draft EIS, it cannot require PSE to build an alternative that PSE does not see as feasible."*

Problems with this Response: This is a ludicrous response. While the City of Bellevue cannot require PSE to build an alternative, they surely have the authority to deny the CUP Application and advise PSE that if they think that is a problem then PSE should make a CUP Application for a different project. The City of Bellevue can suggest that PSE file a CUP for one of the alternatives I have provided to Mike Brennan in my

expert report on alternatives. As discussed in that expert report, all the alternatives listed there are feasible alternatives. For example, I have explained clearly how it is that the Seattle City Light line option is a feasible alternative. All these alternatives would seem to be more feasible than the Energize Eastside alternative that will need approval in potentially 6 different permit proceedings before it can be built. If there arguably exists, at best, a minor reliability problem, it exists exclusively in Bellevue and its remedy should be limited to there.

6. [Project need continued] Comment Issue Summary page 90:

   Comment Issue Summary: *"PSE's motive for the Project is profit for a foreign owner/parent company. The Project is intended to generate revenue and does not have the region's best interests in mind."*

   Response: *"The City does not regulate projects based on the motive of the Applicant."*

   Problems with this response: This City Response misses the point. If PSE is primarily motivated to build Energize Eastside from a profit standpoint, then legitimate suspicion reasonably dictates that extra attention should be given to their justification for the need for Energize Eastside. In this case, that need for particular attention is increased by the fact that the Lauckhart-Schiffman load flow study report concludes that the project is not needed. The need to give this project special scrutiny is also increased by the fact that the PSE load flow modeling was actually done by a consulting firm not located in the Northwest, and PSE's lead transmission planner (Kebede Jimma) was not involved in the study and could not answer questions about why certain questionable assumptions were made in that load flow modeling.

   There is considerable evidence that EE is not needed, and yet the City of Bellevue has consistently turned a blind eye to that evidence, apparently forgetting that PSE has the burden of proving need. Cities such as Newcastle are doing significantly more in the way of due diligence and insisting on transparency from PSE.

   In order to best determine whether the Lauckhart-Schiffman load flow study is correct or whether the PSE/Quanta load flow study is correct, the City would need to compare the input files from their respective studies. On October 14, 2018 I provided comments to the COB regarding the PSE lack of proof of the need for Energize Eastside. [11815-11821] I pointed out that PSE has continued to refuse to provide me the files associated with the load flow studies that PSE/Quanta made in an attempt to demonstrate the need for Energize Eastside. I indicated that the COB needed to demand that PSE provide those load flow study files. Despite these compelling reasons to

require PSE to produce their load flow study files, the COB has neglected to do so. The Mike Brennan recommendation document does not provide any reason why they chose not to do that.

It is clear that the PSE/Quanta load flow studies are flawed. They inappropriately increased flows to Canada to 1,500 MW. They shut down important power generation projects in the Puget Sound Area. They assumed the BPA I-5 Corridor project would be built even though it has been cancelled. The Lauckhart Schiffman load flow study fixes these problems and it finds that Energize Eastside is not needed now or any time soon.

V. PSE's CUP application fails to satisfy Bellevue's land use criteria

The Hearing Examiner must ascertain whether the applicant of a proposed Electrical Utility Facility (EUF) provides data showing "that an operational need exists that requires the location or expansion at the proposed site. . ."[6] In addition, the applicant must describe how the proposed EUF provides both "system reliability" and "reliability to customers served."[7] The code also establishes locational criteria that require an applicant to demonstrate that the proposed EUF location is "a consequence of needs or demands from customers located within the district or area. . ." where the EUF is proposed.[8]

PSE has not met this burden. In fact, PSE has actively resisted making these demonstrations by refusing to show their detailed load flow studies.

FERC has not stated that EE is needed. The WUTC has not stated that EE is needed.

Even more telling for PSE is the fact that the Energize Eastside project manager for PSE has stated that she "has no idea" when PSE will file for Conditional Use Permit applications in North Bellevue and cities to the north.[9] If there is a FERC reliability requirement to build EE as PSE says, then it is not acceptable when PSE fails to timely make permit applications for it everywhere it is intended to be built. Indeed, PSE's leisurely approach to getting Energize Eastside permitted underscores its lack of credible need.

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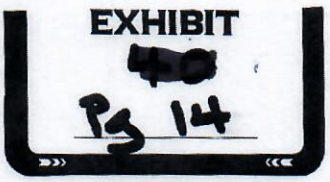
[6] See May 16, 2018 letter from Rick Aramburu to the City of Bellevue, copy to Newcastle and Renton, re: "Energize Eastside" Application: Additional Information.

[7] *Ibid.*

[8] *Ibid.*

[9] Communications between Keri Pravitz (Community Projects Manager for PSE) and Loretta Lopez of CENSE in August of 2018. [See Attachment 2 to these comments where Keri Pravitz tells Loretta Lopez of CENSE that she has no idea when permits for north Bellevue will be applied for.] And clearly as of the date of this testimony those permits still have not been applied for.



VI. PSE's arbitrarily proposing a third of Energize Eastside being built within Bellevue city limits, i.e. the "Talbot Hill/Lakeside Transmission Line" (THLTL), risks creating a bridge to nowhere

Bellevue runs the risk of allowing millions of dollars of waste to occur if the proposal now before the Hearing Examiner is approved, and then subsequently either Redmond or Newcastle does not approve either of two other EE segments. By itself, THLTL will be connected to nothing that will run new generation through its lines. PSE asserts that THLTL is viable on its own, and now for suddenly new and unexplained reasons the "north segment" has become "redundant." *That is a clear admission that the totality of EE is not needed.* Eventually the truth must come out that *none* of EE is needed.

If Bellevue or other affected city denies PSE's application, PSE still has the option to seek a permit for the entire EE project with the Washington Energy Facility Site Evaluation Council (EFSEC), without playing the cities in piecemeal fashion by asking hearing examiners to gamble on what may not be a workable outcome.

ATTACHMENT 1

CITY OF BELLEVUE
CITY COUNCIL

Summary Minutes of Study Session

May 4, 2015
6:00 p.m.

Council Conference Room
Bellevue, Washington

PRESENT: Mayor Balducci, Deputy Mayor Wallace, and Councilmembers Chelminiak, Lee, Robertson, Robinson, and Stokes

ABSENT: None.

1. Executive Session

Deputy Mayor Wallace opened the meeting at 6:01 p.m., and declared recess to Executive Session for approximately 20 minutes to discuss one item of property acquisition.

The meeting resumed at 6:43 p.m., with Mayor Balducci presiding.

2. Study Session

(a) Presentation of the Independent Technical Analysis of the Energize Eastside project authorized by Resolution No. 8857 through a professional services agreement with Utility Systems Efficiencies, Inc. (USE)

City Manager Brad Miyake introduced the presentation of the findings of the independent technical analysis of Puget Sound Energy's (PSE) Energize Eastside project by Utility Systems Efficiencies, Inc. (USE), the City's consultant authorized by Resolution No. 8857 through a professional services agreement.

Mike Brennan, Director of the Development Services Department (DSD) introduced Jennifer Geer and Peter Mackin of Utility Systems Efficiencies, Inc. (USE).

Mr. Brennan recalled that the 1993 Comprehensive Plan reflects PSE's identification of future electrical facility needs. Following the wind storm in 2006, Comprehensive Plan policies were added in 2007 to address the siting of electrical facilities. The Land Use Code was amended in 2008 with specific requirements for the permitting and mitigation of electrical facilities. The Electrical Reliability Study was completed in 2011. This year, the consultant was hired to conduct an independent technical analysis of PSE's proposal for its Energize Eastside project.

Mr. Brennan summarized the City's public engagement process to address the Energize Eastside project, which included a community forum on June 3, 2014. The Council has received briefings from PSE and, earlier this year, authorized the independent analysis by the consultant.

Ms. Geer, USE, presented the findings of the independent technical analysis, which focused on three key questions: 1) Is there a need for the Energize Eastside project to address growth in Bellevue?, 2) Is the project needed to address the reliability of the electric grid on the Eastside?, and 3) Is the project needed to address regional flows including imports and exports to Canada? She said the answer to all three questions is yes.

Ms. Geer described USE's review of the forecasting methodology. She said the North American Electric Reliability Corporation (NERC), a non-profit international regulatory authority, requires weather normalizing in developing demand forecasts. She described how weather normalizing is used to project demand, as well as how econometric and demographic data are incorporated into the forecast. She noted that the Puget Sound Regional Council's (PSRC) 2040 Plan projects 32 percent population growth and 42 percent regional employment growth.

Another factor in developing the electrical demand forecast is to consider known major projects and known major load changes based on growth in commercial square footage and residential units. Ms. Geer noted that some of this information is confidential with certain developers.

Ms. Geer said the main way to decrease demand is through conservation, although some energy might come from alternate sources. The forecast is developed for both overall energy consumption and peak demand. Ms. Geer described PSE's 2014 Eastside Demand Forecast which reflects a higher growth rate. However, there is lower forecasted demand in 2017-2018 because the actual peaks for 2012-2013 and 2013-2014 were lower than forecasted.

Responding to Mayor Balducci, Ms. Geer said the forecast was developed in 2012 for winter 2012-2013 and for winter 2013-2014. Based on the actual peaks for those years, the weather normalized forecast was lower for 2013-2014.

In further response, Ms. Geer said projections for 2017-2018 changed after the 2013 forecast, when compared to the 2012 forecast.

Responding to Councilmember Robertson, Ms. Geer said the forecasting methodology changed between 2012 and 2014. In 2012, the forecast methodology examined PSE on a service territory level. For the 2014 forecast, PSE pulled information at the county level and the Eastside census tract level. Therefore, the 2014 forecast was more accurate.

In further response, Ms. Geer said the current methodology is more accurate because specific information was available for the Eastside census tracts. She said USE did not analyze the 2012 forecast methodology; they only analyzed the 2014 methodology. However, Ms. Geer said the 2014 methodology makes more sense.

Mr. Brennan said the current methodology reflects more reliable and specific information about the Eastside versus the earlier county-wide forecast.

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Mayor Balducci said her understanding was that conducting this particular analysis was part of the reason for the delay in the completion of the report. She thought the City was waiting for the new forecast based on the new methodology to feed into USE's analysis. Mr. Mackin confirmed that understanding.

Responding to Councilmember Lee, Ms. Geer reiterated that the key change in the methodology was to use more specific Eastside area data instead of PSE's countywide averaged data. She said the 2014 methodology reflects a lower demand for 2017-2018. In further response, Ms. Geer reiterated that USE did not analyze the 2012 methodology. Mr. Mackin said all of USE's work was based on the 2014 forecast.

Continuing, Ms. Geer described the system capacity for the Eastside forecast. By 2017-2018, system elements are overloaded, and by 2019-2020, Eastside customers are put at risk.

Councilmember Robertson questioned whether there were assumptions based on conservation and alternate energy sources. Ms. Geer said the 100 percent conservation forecast considered more than 4,000 measures. Lighting, conservation, renewable energy, and other standards are factored into the conservation projection. The maximum level of anticipated conservation is referred to as 100 percent conservation. Ms. Geer said solar energy is great for energy consumption over a specific sunny time period. However, solar energy has little to no effect on winter peak demand. Similarly, measures such as insulation help reduce energy consumption but do not have much of an effect on peak demand. In further response, Ms. Geer said the use of LED lights has very little impact on peak energy demand.

Continuing, Ms. Geer said that, in summer 2018, there are not only overloaded elements but there are customers at risk of outages, as well as load shedding. Load shedding is an intentional electric power shutdown to a portion of the system to protect the network from a greater impact or damage.

Responding to Deputy Mayor Wallace, Ms. Geer said the Eastside Forecast Peak Demand graph reflects weather normalized actual numbers. Mr. Wallace said demand flattens from 2012 to 2014. However, demand increases fairly sharply beyond that point. He said the City has learned the hard way in working with the Cascade Water Alliance that demand forecasts based on growth projections several years ago over-estimated current and future demand. This results in large, expensive projects that are not needed.

Mr. Wallace questioned the rationale for the increase in demand beyond 2014. Ms. Geer said there was one data point for which she checked with PSE. That data assumed an extreme weather scenario and she said that could be what is driving the increase in demand.

Mayor Balducci said she understands the effect of weather. However, key questions from the Council are: What is underlying the forecast? Is it due to increased population, increased jobs, and/or increased/decreased average usage?

Councilmember Chelminiak referred to page 31 of the report and noted that it does not list the Tateuchi Center. He said the benefit of an Eastside forecast is the inclusion of Eastside projects. He observed that more buildings will demand more energy. While new homes are more energy efficient than in the past, the homes are getting much larger. He found that to be an interesting factor in why the load forecasts are increasing.

Councilmember Robinson noted that, before the independent analysis, there were two data points: 2012 and 2013. Ms. Geer clarified that there were more data points prior to 2011-2012. However, that information is not shown on the graph included in the presentation. Ms. Robinson said she would like to see a graph of the historical data points that are factored into the forecasted demand. She shares Mr. Wallace's concern that the demand is flat between 2012 and 2014, but increases relatively sharply beyond that point.

Mr. Brennan said the flat spot is possibly an anomaly. He said population growth and job growth are driving increased demand, especially when many of the new jobs are technology companies that have high energy usage.

Mayor Balducci observed that the Council understands there is growth. However, what is not known is the per capita or per household energy usage. The specific forecast in the presentation is based on math which is based on certain data. What exactly does that data demonstrate? How good are the assumptions that went into the calculation of this specific forecast? Ms. Balducci said she needs to understand whether the assumptions underlying the math equation that results in the forecast are realistic and accurate.

City Manager Miyake said staff will get more information to the Council.

Councilmember Stokes observed that perhaps the change in methodology is the reason for the sharp increase in demand beyond 2014. If so, this needs to be demonstrated for the Council.

Councilmember Robertson questioned the extreme weather scenario assumed by PSE. Ms. Geer said weather normalizing seeks to eliminate weather variability in the forecast, and the normalizing process is based on a great deal of historical data. If there happens to be a season with something very abnormal and there is no history to account for anything similar, the normalizing process might not capture it accurately. Ms. Geer reiterated that there was one data point that she checked with PSE, and she was told it was related to an unusual weather situation. She would need to go back and verify which year reflects that assumption.

Councilmember Robertson said it would be helpful to understand actual usage and the specific data driving the forecast. She said the report lists projects, mostly in the Downtown and Bel-Red corridor, that are driving demand. However, PSE's map does not indicate where demand is the highest.

Councilmember Robertson said it would be useful to have a clear understanding of usage by geographic area within the City and the Eastside. She said this is important in directing conservation efforts. Also, the Land Use Code has a requirement that alternatives be studied

based on the area being served. If the transmission lines are needed due to growth in Bel-Red and Downtown, the alignment should be studied within that context.

Ms. Robertson asked whether the consultant could provide a map showing demand growth by geographic area within the community. Ms. Geer said they attempted to do so using substation loads. However, the substations are not necessarily located exactly where the load originates and the consultant felt the resulting map would be misleading. She said data for usage by geographic area was not made available by PSE. Councilmember Robertson questioned how that data could be developed. Ms. Geer said that would need to be addressed again with PSE.

Mayor Balducci questioned how that information would be used. Councilmember Robertson said the Land Use Code requires that alternatives be studied based on the areas to be served by new electrical infrastructure. Ms. Balducci observed that a large part of the demand is the Downtown. However, all transmission lines cannot be aligned through the Downtown.

Ms. Robertson reiterated that she would find the data to be useful as part of the analysis. A policy question would be whether it would be fair to run the lines over residential areas if they are not the areas to be served by the new infrastructure. Ms. Balducci observed that collecting the specific data would not change what is already known about which areas of the community are demanding more electrical capacity.

Councilmember Chelminiak said he met with the consultants before this meeting. He suggested moving on to hear more information they are prepared to present.

Continuing with the presentation, Mr. Mackin described how the major power outage in the northeastern United States in 2003 drove the federal requirement to comply with NERC standards. NERC standards dictate that a utility must be able to serve the expected demand/load as well as regional transmission requests, including to and from Canada, when transmission outages occur. The standards require two transmission lines for redundancy.

Mr. Mackin described why transmission outages are held to a higher standard than distribution outages. The probability of the former is much lower than the latter. However, a transmission outage affects a large number of customers. NERC standards dictate that a utility must be prepared for the worst, even if the probability of a severe event is low.

Mr. Mackin described the Optional Technical Analysis (OTA) of models obtained from PSE. The consultant studied the models and verified that the loads were consistent with the forecast and that the transmission flows were accurately estimated. Mr. Mackin described the scenarios that were analyzed. Under all scenarios studied, there was a local need for increased capacity. A number of the scenarios would not meet NERC standards.

Mr. Mackin repeated the three questions identified at the beginning of the presentation and stated that the answer is yes for each of them: 1) Is there a need for the Energize Eastside project to address growth in Bellevue?, 2) Is the project needed to address the reliability of the electric grid on the Eastside?, and 3) Is the project needed to address regional flows including imports and exports to Canada?

Councilmember Robertson noted Mr. Mackin's comment that NERC standards require two outbound transmission lines. Her understanding is that PSE's analysis was completed, not looking at two lines out, but with all local generation turned off. She questioned whether that is part of the NERC standard.

Mr. Mackin said the PSE analysis assumed low generation west of the Cascade Mountains. USE's sensitivity analysis looked at the average generation for peak times west of the Cascades. PSE studied the total west-of-Cascades generation of 180 megawatts. USE increased that to 680 megawatts for its analysis. That is reflected in OTA scenario #4. Responding to Ms. Robertson, Mr. Mackin said 680 is less than capacity. However, it is the average expected generation.

In further response to Ms. Robertson, Mr. Mackin said one overload is eliminated by increasing the generation. He confirmed that, if flows to Canada were eliminated, there is only one potential outage. She questioned whether this could be solved by adding a transformer at the top of the hill. Mr. Mackin said it possibly could. He has experienced this type of scenario in the past. He found that, if you address an overload on a transformer by adding another transformer, transmission lines below that transformer are overloaded from the increased power flow. However, he acknowledged it is a potential fix and it would not meet NERC standards.

Councilmember Robertson questioned whether the Energize Eastside project includes a component to serve the Canadian need on the BPA (Bonneville Power Administration) lines. Mr. Mackin said USE's task was to assess the need for the Energize Eastside project, and they found that there is a need. That does not necessarily mean that PSE's recommended project is the only alternative. There might be others but USE did not study alternatives.

Ms. Robertson said the City wants to apply USE's work to preparing the environmental impact statement (EIS). She said it is interesting that, with Canada taken out, there is only one overload. She questioned the actual number of megawatts used for the Canadian transmission and power flow simulation. Mr. Mackin said the initial cases had 1,500 megawatts flowing to Canada in the winter. When USE looked at no flow, they reduced that assumption to zero. In the summer, the analysis looked at 3,150 megawatts imported from British Columbia to Washington.

Ms. Robertson said she has a number of additional questions which she sent to staff. She would like all responses in writing for the full Council.

Councilmember Robertson referred to the report by PSE's contractor that looked at how to potentially save energy. The study found a potential 56 megawatts of energy savings. She questioned whether this was factored into any of the estimations made by USE for flow, growth, demand, and/or peak. Ms. Geer said the forecast incorporated a great deal of conservation. By 2017-2018, the Eastside forecast incorporated 51 megawatts of conservation. By 2031, the forecast incorporated 135 megawatts of conservation.

Councilmember Robertson requested information on whether these are the same conservation measures and/or energy savings found by PSE's contractor. Ms. Geer said she did not have that information.

Councilmember Chelminiak observed that the report does a good job of addressing a complicated issue. He said page 57 of the USE report references options from the Columbia Grid Study. One involves maintaining the 115 kV line through Bellevue. This could be achieved by upgrading the Maple Valley Sno-King and Bothell Sno-King lines to 30 kV with the re-conductoring of one line and rebuilding of one line. Under that scenario, Bellevue would be able to keep a 115kV line. However, there was an indication that this would not meet the regional need. Mr. Chelminiak questioned whether this is a viable option to study under the EIS.

Mr. Mackin said that is outside the scope of the independent technical analysis, which focused on the need for the Energize Eastside project. However, as a transmission planning engineer with many years of experience, he said it could be a viable option. It appears that Columbia Grid evaluated the option. However, they did not choose that option for a number of reasons.

Councilmember Chelminiak observed that USE studied Energize Eastside to determine whether the project is about the flow to Canada. Mr. Mackin said they took out the regional flows to determine whether there is still a local need. The analysis indicates there are both regional and local needs.

Mr. Chelminiak questioned the viability of using batteries. He noted a company in the South Everett area that is working on battery projects. What level of battery power would it take to meet the need represented by the Energize Eastside project?

Mr. Mackin said this involves 500 kilowatt batteries that fit within shipping containers. If the Eastside needed to reduce the load by 70 megawatts to meet reliability standards, 140 of these batteries would be required. This equals 700 shipping containers that would have to be located somewhere.

Mr. Mackin said Energize Eastside is building for the long term and would meet load growth for at least 20 years. Batteries would need to be added as demand increased. He said he does not know the economics of this option. Mr. Mackin said the problem is that the need for capacity must be met by 2017-2018. The EIS will take approximately one year so it is important to start the process now rather than waiting to see how the battery method works.

Deputy Mayor Wallace reiterated his concern that the graph from the presentation shows flattened energy demand. However, the Optional Technical Analysis (Appendix B) questions: If the load growth rate was reduced, would the project still be needed? Mr. Wallace said USE answered in the affirmative and said that the "OTA results show that reducing the Eastside average load growth from 2.4 percent to 1.5 percent did not eliminate any overloading elements. There is still project need." Mr. Wallace observed that this is an incomplete answer, especially since there is no indication about the timeframe for the need.

Mayor Balducci summarized that the Council has a number of questions, including those submitted by Councilmember Robertson in writing to staff. Ms. Balducci said it is important to have responses to the questions from USE, PSE and/or City staff as appropriate. She said written answers are needed to fully understand the analysis.

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Mayor Balducci asked the City Manager to get back to the Council about how that will be done. She clarified that she is not asking for an expanded scope but for explanation and information regarding the analysis already completed by USE. Mr. Miyake said more time will be needed to have the consultants review and develop responses to the questions.

Deputy Mayor Wallace observed that the USE report is somewhat apologetic about PSE's study. He questioned whether the consultant could list the items it found to be deficient in PSE's work. Could they prepare critical observations about PSE's reports and justification for the project?

At 8:02 p.m., Mayor Balducci declared recess to the Regular Session.

Myrna L. Basich, MMC
City Clerk

/kaw