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I. PSE fails in its legal burden to prove project need

A. PSE offers patently incorrect, self-serving, conclusory statements and unsubstantiated “facts” to justify Energize Eastside. For eight years PSE has stubbornly refused to make available the standard vital underlying information that power planners use and expect from others to justify system upgrades. In simple terms, PSE has been hiding the ball since 2013. Without full disclosure and transparency regarding this key information, following execution of nondisclosure agreements by the parties and their experts, PSE fails to even enter the arena of a preponderance of evidence, if it withholds its evidence. This project cannot proceed on a “just trust me” basis.

B. Solid, verifiable facts are required.

1. The basic facts needed to support accurate, verifiable conclusions for a system upgrade are generated by computer simulations of a utility’s entire system known as “load flow studies,” or “power studies.”

2. These studies also include adding and analyzing other utilities’ resources outside the utility’s service area (but part of the interconnected grid) that can be called upon in an emergency.

3. In fact, these simulations are indeed conducted in both “normal” and “emergency” scenarios, as we will see later. For four scenarios, in fact: winter peak load with no elements of the grid forced out of service, winter peak load with certain elements of the grid out of service on forced outages, summer peak load with no elements of the grid forced out of service, and summer peak load with certain elements of the grid out of service on forced outages.

C. So in order not to get further ahead of ourselves, what exactly are load flow studies? And why are the data from the inputs to and outputs from the 2013 load flow

studies that PSE/Quanta did for Energize Eastside not only look wrong and skewed, but demonstrably and seriously flawed and very much out of date?

D. Load flow studies are used to predict future needs for a system.

1. The 2013 PSE/Quanta studies were configured to predict PSE's system needs, if any, for 2018 electricity demand, and how the system could be reliable if any one or more key component(s) were taken out of service on forced outage.

2. On its web site, PSE posted this prediction and graphic: that without EE the Eastside would be experiencing power outages as soon as 2017. By today, according to the 2013 PSE/Quanta flow studies, we should be in a blackout right now.

3. Real world data proved PSE's 2013 model for its "what if" simulations to be wildly wrong. Garbage in, garbage out. Reality drove this much touted graph by PSE off its website.

3. Yet right through to 2016 PSE kept using this flawed model to insist the sky would soon be falling.

E. But let's step back and get a complete answer to: What are load flow studies, and why are accurate ones necessary and inaccurate ones so easy to go undetected?

F. To properly answer those questions, two short videos will help provide some needed basic information. The first video is about how the grid works. The second provides useful visual details about what load flow studies are and the critical information one gets from them. I will be referring to some of the concepts shown in these videos. [play videos].

G. Indeed, garbage in, garbage out. There is very strong evidence that the PSE/Quanta studies are extremely likely to be a classic case of garbage in, garbage out. That is what a colleague, Roger Schiffman, and I concluded after performing our own load flow studies based on information PSE is required to give federal regulators. We had enough base case information to discover the PSE/Quanta flow studies (seriously obsolete as they obviously are now) must contain many fundamental mistakes and/or deliberately false information. These fatal flaws — seven of them among conceivably more — we will soon examine in detail.

H. But first, some more factual background.

1. The data from load flow studies are required to be given annually by utilities like PSE to the federal agency in charge of overseeing the entire western grid, WECC. The Federal Energy Regulatory Commission (FERC) requires all utilities like PSE to develop Base Case load flow data and solved load flow cases covering the entire interconnected grid each year. These Base Cases assume there are no forced outrage of elements of the grid. Then FERC further requires each utility like PSE to also perform load flow studies of their portion of the grid under certain forced outage conditions. This second requirement is made by FERC in Attachment K to each utilities FERC required Open Access Transmission Tariff (OATT).

2. A key WECC function is to gather the data and coordinate the development of the Base Cases. These Base Cases need to demonstrate that the

western utilities that are integral to the interconnected grid can assure the lights stay on in the not-so-distant future. (3) Roger Schiffman and I obtained the information PSE gave to WECC in 2016, for predicting the PSE system in 2018, as a "base case," i.e., one with everything in PSE's system operating normally and with nothing out of service. The Lauckhart-Schiffman report is included in my expert report submissions. This "everything working in the system" snapshot is technically known as a system at N-0 (no elements of the grid forced out of service).

3. One oddity Schiffman and I immediately discovered is that PSE's predicted 2018 snapshot of PSE's installed equipment was seeing Energize Eastside in there as an already present asset! This project, of course, had neither been permitted let alone built in 2016, nor could that reasonably be achieved by 2018. But a quirky committee review process at WECC by the very utilities regulated by WECC allows for this sort of deceptive "assumption" to creep in. A skeptical view of how reliable WECC is as a regulator is justified.

4. Consequently, in order to see if there was any problem without Energize Eastside in service, Schiffman and I took out Energize Eastside in the WECC base case to see how reliable the system was without EE.

5. Among the seven flaws in the PSE /Quanta flow studies is their deceptively keeping EE in their model for their 2013 studies. It is a bit fraudulent to include in your flow studies the very project you want to justify building by already having present in your load flow model. In such a case, the proper thing to do if you find a reliability problem without EE is to run flow studies where you swap in instead of EE a number of better alternatives, such as proposed by me and others, and see how they do. This PSE/Quanta did not do. But, as will be soon discussed, there are six other fatal flaws that are far worse.

I. (1) PSE must show absolute proof of the accuracy and legitimacy of the PSE/Quanta studies given the very powerful circumstantial evidence of the flaws Schiffman and I found. The data providing such absolute proof exists. As with all load flow studies, there will always be five standard plain text-formatted files containing that proof, with the following file names and functions:

1. **areatie.lst**. It shows the lines between utilities. It contains input data (how much power these lines can move), and output data (how much power flows over these lines in the "solved case," i.e., a result the system can produce under simulated conditions. There are 22 different areas in WECC. PSE is in the Northwest area. PSE is one of 489 zones in WECC.

2. **buslist.lst**. This file consists of a long list of substations and line connections across all of WECC including the PSE substations on line connections. There are 22,195 Busses in WECC. There are 3,500 different generation plants in WECC totaling 257,000 MW.

	capacity MW
natural Gas	97,000
hydro	68,000
coal	30,000
wind	25,000
solar	20,000
nuclear	8,000
geothermal	4,000
other	5,000
	257,000

3. **flows.lst**. It shows every segment of the transmission and substation grid in WECC, including the PSE service area. Input data here is the capacity of the segments. This file's output data shows how much power flows through each segment in the solved case. There are 17,454 different branch segments in the WECC. There are 8,769 high voltage transformers in WECC. There are 11,257 load serving substations in WECC.

4. **owner.lst**. A listing of 489 utilities that own what facilities in WECC.

5. **summary.lst** A general overview of what generation is available in that particular solved case.

I. (1) If I or anyone with my power planning expertise had just these five files from the PSE/Quanta studies, I would, probably within less than a week, be able to pinpoint with precision where the specific flaws in those studies lie. It would be analogous to finding a computer bug's source by looking deep into the source code. (2) PSE has succeeded so far in refusing me and others access to these easily available five text files, because PSE claims my federal security (CEII) clearance is not good enough for PSE. PSE by law does have the right to set its own CEII qualifications. In my case, their refusal was explained by my not having armed guards posted at my house to prevent terrorists from getting in and finding PSE grid information.

J. PSE offers as sole proof of project need to improve Eastside reliability its obsolete 2013 load flow studies. PSE has never SHOWN ITS HOMEWORK to show its conclusions are supported by the underlying facts. PSE and its consultants relying on PSE.Quanta flow studies produce impressive spreadsheets and reports, but they never show where the data is supported in the key five text files. (2) What is needed is the equivalent of a "DATA AUTOPSY." I will be showing you shortly what a data autopsy looks like when one has access to those five critical files.

K. Let's focus now on the seven flaws in the PSE/Quanta studies which simply shouldn't be there. They raised Schiffman's and my eyebrows in much the way anyone

would recoil at a news story reporting a football team won a game by a score of 560 to 4.

L. Here is the list of the fatal flaws in the PSE/Quanta studies, which we will examine one by one. The PSE/Quanta studies must have these very probable flaws in them because I am not able to duplicate their work when using the two PSE Base Cases I got from FERC/WECC, i.e., the ones for PSE's forecasts for 2018, submitted by PSE in 2013, and a more recent one from PSE in July 2019, for forecasts for PSE's system in 2023, when I saw that in the context of a Montana project I was working on in [year]:

1. Shutting down six gas-fired generating plants in the PSE service territory. An obvious alternative that PSE/Quanta should have studied for would have these plants running at peak usage times. Plain common sense would dictate you use that scenario in a peak emergency. Taking out six plants in such an absurd scenario can only be explained by the modeler being forced to jimmy the inputs to achieve a desired (and highly profitable) result.

2. Modeling the huge 500kv BPA I-5 Corridor transmission project as if it had been built, when in fact BPA canceled the project as not needed on May 18, 2017.

3. Not allowing nearby 230/115 KV transformers to serve Eastside load in the modeling when in the real world they in fact do serve Eastside load. Excluding these obvious resources available to PSE in peak load times to sustain reliability is either due to gross incompetence or willful deceit. Again, common sense would dictate an honest and accurate picture of the real-world power when planning "what if" simulated solutions.

4. There is the false assumption that PSE ratepayers are responsible to build EE for developing the capability to allow 1,500 MW of power to flow to Canada under winter peak load conditions and two elements of the grid out on forced outage. That amount of Firm Delivery of power was never required.

5. Using "normal" ttransformer "ratings" (how much power PSE is allowed to transform in order not to excessively overheat), when the studies should have used "emergency" transformer ratings (emergency ratings are 30% higher than normal ratings.

6. The PSE/Quanta studies assume customer demand on the Eastside will rapidly grow over the next 10 years when in reality the Eastside load is actually decreasing. Again, reality and common sense are not taken into account to adjust for real-world facts, in order to allow "garbage in" inputs to continue to skew in favor PSE's desired result (and prevent writing off $100 million in sunk costs so far). By analogy, no sane person would rely on a weather prediction for tomorrow's weather made eight years ago over an untainted weather forecast made today. But that is precisely what PSE is trying to get away with here.

7. Not simulating reasonable alternatives to EE by running load flow studies with prominently proposed aalternatives, such as using the available, cheaper, safer, and overall better Seattle City Lines on the Eastside; the cheaper and safer Lake Tradition alternative; a single small gas-fired peaker plant placed right where the load is in Bellevue, with no need for 18 miles of transmission lines; and known effective non-wire solutions such as Demand Side Maintenance (DSM) MaxETA/Synapse prefers.

PSE did not simulate any of these better solutions. It's as if they were satisfied that, after jimmying the data inputs — garbage in— they could prove a Sherman tank can definitely kill a fly. They never bothered to test for a fly swatter, or in fact, whether the fly even exists.

We can only know with final absolute certainty what mistakes the PSE/Quanta made by looking at the detailed input/output files in the load flow modeling they conducted as their one and only Exhibit A for project need. Or, conversely, we can only know with final absolute certainty the project is valid if PSE proves with the essential five data files that they are right. What are they hiding?

PSE needs to SHOW ITS HOMEWORK! You would think they would want to do that to the hearing examiner's satisfaction to make sure there is no doubt who is right, PSE or people like me who smell there's something rotten in Denmark.

I have done such a data autopsy using the five files that come as a result from a flows study. In a recent case in Montana as Consolidated Energy of New York's consultant, I suspected, as here, flaws in the flow studies done for a major wind energy project. After searching for the data from the flow studies where I suspected to find flaws, in the span of just a few days, using the simple "find" feature that comes with every text file application like Notebook in Windows, I discovered these nine fatal flaws:

1. Improper adjustments to phase shifter settings.
2. Improper Adjustments to Generator Dispatch.
3. Modeling planned new generation running even though the project was cancelled.
4. Incorrect and unrepresentative assumptions concerning normal line ratings vs. emergency line ratings
5. Failure to reflect curtailment of Energy Resource Interconnection Service (ERIS) resources during contingencies.
6. Injection of an incorrect 180 MW from the 135 MW (nameplate) Judith Gap project.
7. Failure to explore alternatives to the New Broadview-Great Falls Transmission Line and related facilities.
8. Improper modeling of Remedial Action Schemes.
9. improper modeling of renewable generation plant output, showing wind running at full nameplate capacity during system peaks (which never happens).

It is not important for our purposes in this hearing to explain in detail what those incorrect data entries were. Suffice it to say the project proponent admitted these were all mistakes, and that it indeed about two of them but did not make corrections. The result being that a project initially projected to cost $260 million became one of $60 million.

> Such an autopsy is needed here if the hearing examiner is going to see all the important facts. If PSE fails to come forward with that information, then my strong circumstantial proof of the flaws in PSE's one defective piece of evidence offered for project need is refuted and its permit application should be dismissed.

I live in California, I have a thriving consulting business as my CV attests, but here I am offering my expert services for free, and I get nothing tangible from the outcome here. I do this because I once served Puget under an honest John Ellis when it was still a utility focused on serving the public before it became the property of foreign pension funds. And, much more important, because I know this unnecessary project if built will negatively impact the residents of Newcastle and creates a possibility of an explosion and fire putting many people's lives at risk.

II. Better alternatives PSE refused to look at or rejected in bad faith

A. The Seattle City Light (SCL) Eastside Lines Alternative

PSE engaged in deception and deflection regarding some obviously better alternatives to the Energize Eastside transmission project.

A prime example is PSE's excuse for not pursuing a superior alternative to EE presented by SCL's underutilized Eastside lines.

Since at least by 2010, PSE knew and acknowledged that using these available SCL lines could be an alternative to Energize Eastside. Through studies it took part in (to be discussed below), PSE learned that the SCL lines could be a cheaper, more productive, and safer alternative to Energize Eastside.

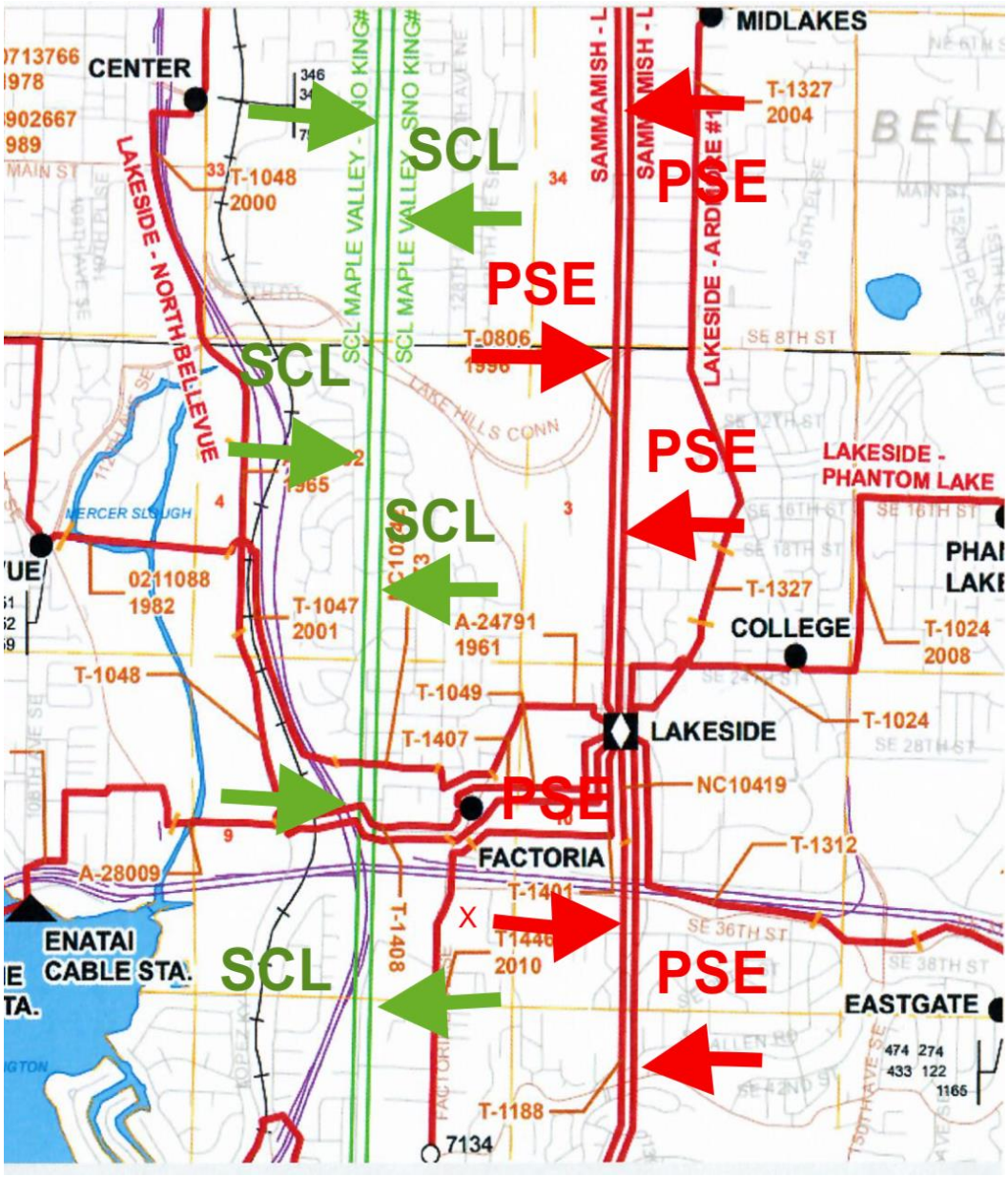
But the chief reason PSE refused to even seriously consider the SCL alternative was most likely the fact that PSE would not be able to grow its revenues if SCL were to have allowed its adjacent corridor for EE: SCL would have been entitled to revenue-sharing. PSE's Australian owner at that time, Macquarie, stated publicly that Macquarie's prime purpose in purchasing PSE was to increase revenues[1]. To fulfill that mission and maximize returns from its rate base, PSE made sure to keep this $300,000,000+ project with a State-guaranteed profit of 9.8% all to itself.

This was not the first time PSE faced the fact that these very same Eastside SCL lines were superior to an earlier 2010 PSE project, a project identical to EE but different in name and purpose. PSE conceded to a consortium of utilities the SCL alternative was indeed cheaper and more productive (let alone not above jet fuel pipelines), but it claimed PSE would be building its own project anyway for other purposes as well, so

[1] See Exhibit RL-17

SCL and the consortium acquiesced. More details about that project and consortium are discussed later in this discussion.

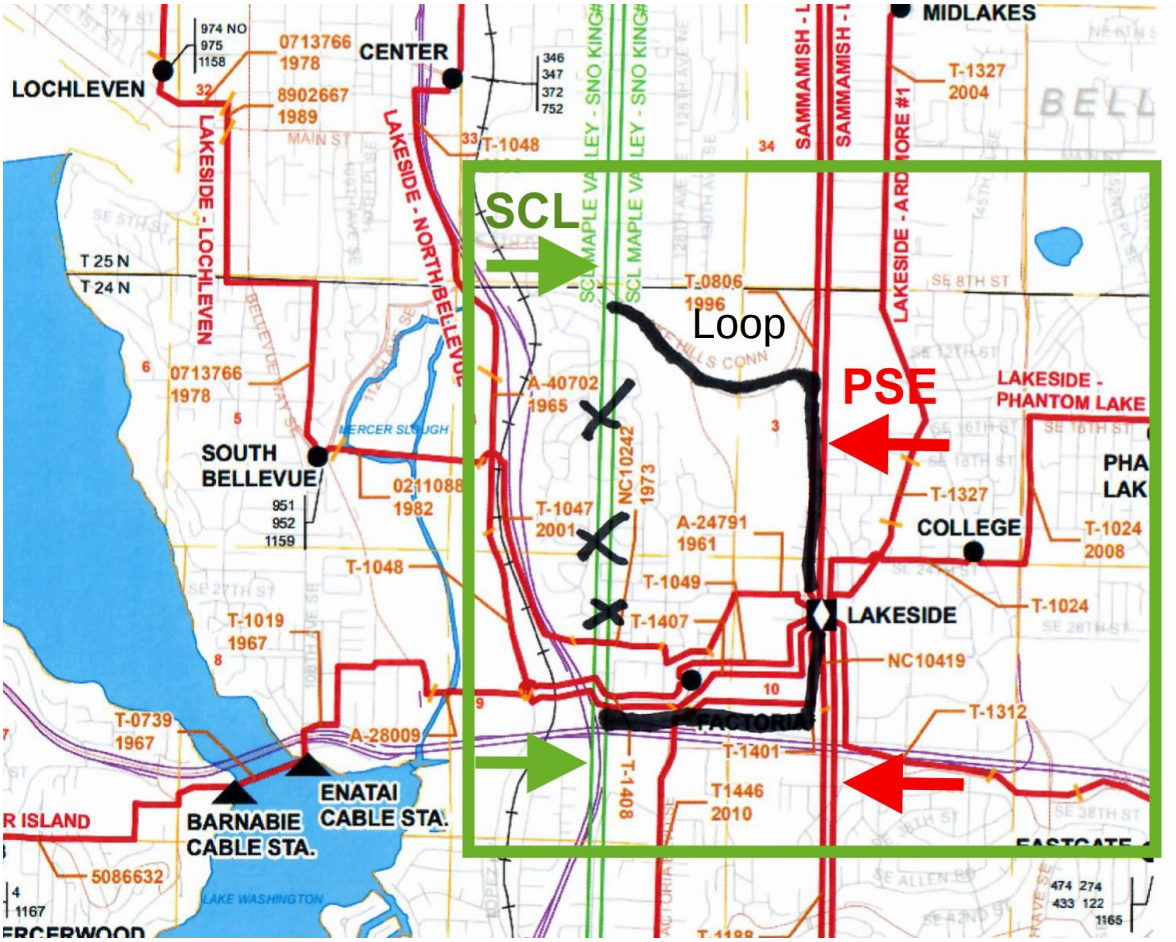
Here is how close and parallel to each other these two power corridors are situated on the Eastside:



PSE says EE is needed to allow construction of a new 230/115 KV transformer at Lakeside. The existing Lakeside switching station could then also become a place to inject more power into the large number of 115 KV lines that make up the 115 KV grid on the Eastside. This would enhance the grid's ability to serve what PSE claims is a rapidly growing demand for electricity in Bellevue. In order to install a 230/115 KV transformer at Lakeside, PSE claims it needs to build a new 230 KV transmission line 18 miles between the PSE Sammamish 230 KV substation to the north and the PSE Talbot Hill substation to the south (neither terminus visible in the above map).

But the same goal of injecting more power into the115 KV transmission grid on the Eastside can be met more easily and safely if instead of building 18 miles of new and taller steel towers and new wires for the increased power from 230kv, a loop can simply be added from the existing SCL lines to reach Lakeside in 11% the distance. This loop also has the ancillary benefit of eliminating that portion of the SCL lines running through Woodridge:

This loop, depicted by the black line in the map below, would run about 2 miles, not 18 miles, and would cost nowhere near the $300,000,000+ EE would cost (with at least $90 million spent so far and nothing to show for it), with a minimum collocation of wires



to pipelines along this brief segment of the PSE lines. The loop corridor can accommodate overhead wires, wires placed underground, or a combination of both.

This SCL alternative screams common sense.

As noted above, for PSE this option was nothing new in 2013 when PSE publicly announced EE. Three years prior, in 2010, PSE and other Northwest utilities, in a consortium known as ColumbiaGrid, considered a joint project with this exact same loop concept, consisting of SCL wires connecting up with PSE wires just as shown in the graphic immediately above.

If PSE and SCL had joined in building the option proposed by SCL we would not be here today, But PSE probably already had the less desirable EE alternative incorporated in its plan to grow the Company to increase its revenues and profits and was committed to EE down the road.

In 2010, EE had a different name. It was called “Sammamish-Lakeside-Talbot Hill” by the now defunct ColumbiaGrid, a private regional entity composed of all the Northwest power utilities, including the BPA, SCL and PSE, among others.

ColumbiaGrid had certain power planning responsibilities delegated to it by the Western Electricity Coordinating Council (WECC. What is referred to here as the “SCL Eastside lines” alternative project to EE also had its unique ColumbiaGrid name: “The Maple Valley to SnoKing 230 kV double circuit line.”

Beginning around 2003, BPA was concerned that transfers of energy to and from Canada in the Northwest, at a transfer point called the Northern Intertie, were experiencing congestion that BPA thought needed relief though a Northwest system upgrade somewhere. BPA believed a “firm commitment” [add footnote to explain what a firm commitment is] of up to 1500 MW to Canada from the US under a 1960s treaty could be cause for future problems. It sought suggestions and commitments from the ColumbiaGrid members to anticipate those problems. This is where Energize Eastside’s precursor was hatched.

In retrospect, this ColumbiaGrid initiative was predicated on two assumptions that were false:

1. There never was a firm commitment to Canada, so in peak load situations the power to Canada could and can be curtailed as needed. A huge flaw in the PSE/Quanta studies is assuming these 1500 MW have to keep flowing when they do not, and removing that assumption from those load flow studies show EE is not needed. In a FOIA request to BPA to determine whether Canada had a “firm commitment” requiring the US to provide 1500 MW, they replied that no such firm commitment existed after searching their databases.

2. And even if such a firm commitment to Canada had been assumed back then, it would have been BPA's responsibility to pay for the infrastructure improvements to cause that to happen.

At any rate, four options were eventually created and presented to the ColumbiaGrid consortium that would meet what BPA felt was a Firm Commitment to deliver power to Canada.

As will be further discussed below, PSE offered its option called "Sammamish-Lakeside-Talbot" which would have followed the identical path for what PSE today calls "Energize Eastside." In addition, "Sammamish-Lakeside-Talbot" had the same design features as Energize Eastside today: upgrade the 115kv lines to 230kv and build an additional transformer at Lakeside to accommodate the increased voltage. Same soap, different box.

Energize Eastside in its 2010 guise was offered for solving an imagined 1500 MW load in the Northwest region that needed a solution. In 2013, PSE dusted it off and offered it as something shiny new for solving an imagined Eastside reliability problem (PSE/Quanta).

From 2013 to 2020, EE was promoted as needed to solve its biggest reliability problem: meeting winter peak load. But then PSE discovered from advance looks at MaxETA/Synapse's draft report that MaxETA/Synapse could not find any reliability problems with winter loads after MaxETA/Synapse did its own flow studies rather than relying on the obsolete PSE/Quanta studies.

Fortunately for PSE, MaxETA/Synapse did find PSE had a summer load shortfall problem that yes, EE could fix, but so could Demand Side Management ("DSM"), which can be instituted now (and should have begun 10 years ago).

So, in 2020, EE suddenly was transformed into solving a summer load problem. What MaxETA/Synapse "discovered," however, is not an Eastside reliability problem, but what it sees as a Bulk Electric System problem. As I discuss in my separate discussion on the MaxETA/Synapse report, EE is neither intended as a solution for a Bulk Electric System problem, nor would a land use hearing be the forum where something like that would be under consideration.

Now in 2021, it remains to be seen how far PSE has switched gears and will take as its last redoubt a full endorsement of the MaxETA/Synapse report (or rather, the draft report before it was eviscerated by PSE and the City with no resistance from MaxETA/Synapse).

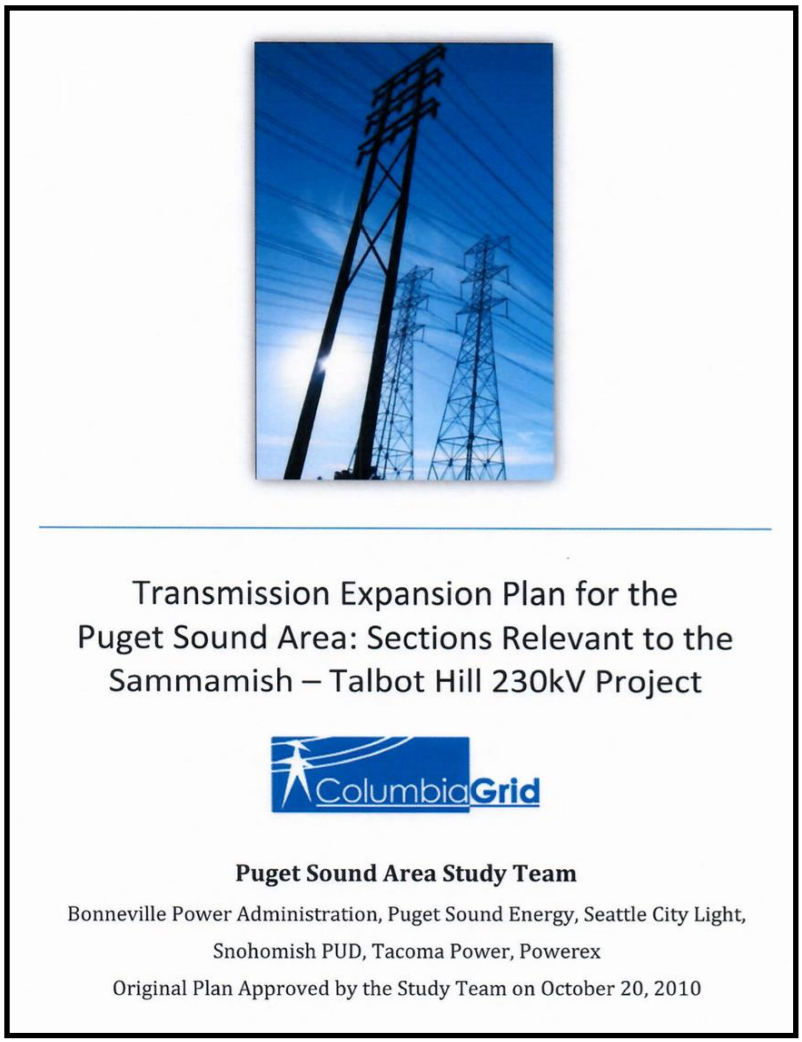
In all its morphs and re-purposings from 2013 to 2021, this $300 million-plus project has tried in vain to find a home to justify it.

But let us return to the origins of Energize Eastside.

PSE offered ColumbiaGrid the proto-Energize Eastside project as one of the four options submitted. Seattle City Light's proposal, however, was found to be superior, as a cheaper and more productive alternative then to Energize Eastside. These same SCL Eastside lines remain still today not only a cheaper and more productive alternative, but also much safer alternative: except for a small stretch, they do not run 18 miles right above two pipelines transporting thousands of gallons per hour of flammable liquids like jet fuel, under pressure through 60-year-old pipes.

As the best of the four options, the SCL lines would be rewired, or as the industry calls it, "re-conductored," and this work would be at BPA's expense. Further, a section of the SCL lines would be looped into the Lakeside transformer, and this part of the project would have been at PSE's expense.

The name ColumbiaGrid adopted for this SCL-offered project was "Maple Valley to SnoKing 230 kV double circuit line," and was chosen for the reasons set out in these excerpts from this ColumbiaGrid report:



Transmission Expansion Plan for the Puget Sound Area: Sections Relevant to the Sammamish – Talbot Hill 230kV Project

ColumbiaGrid

Puget Sound Area Study Team

Bonneville Power Administration, Puget Sound Energy, Seattle City Light, Snohomish PUD, Tacoma Power, Powerex

Original Plan Approved by the Study Team on October 20, 2010

2) Description of Major Projects

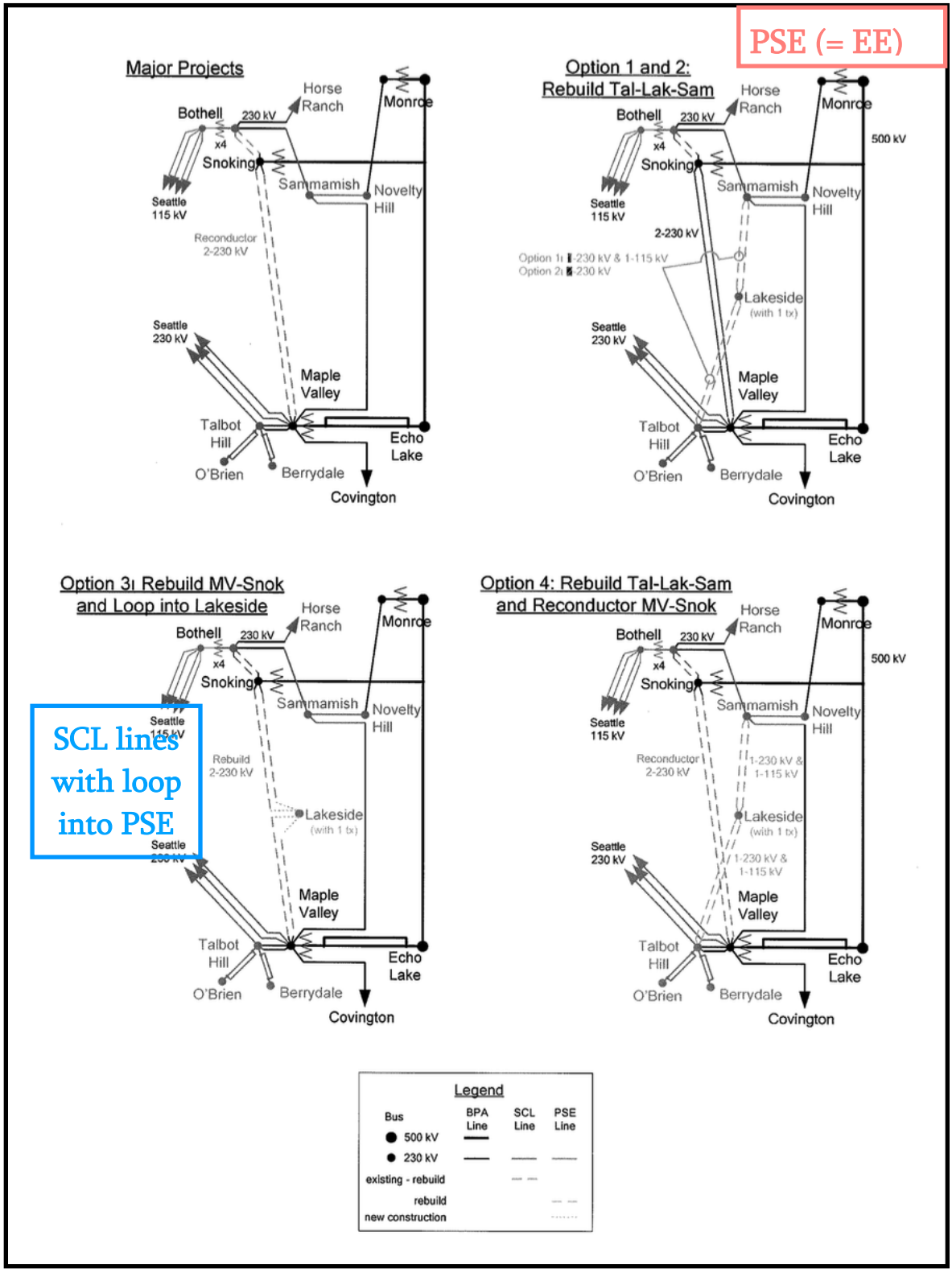
2.4 Reconductor the Maple Valley-SnoKing 230 kV Double Circuit with High Temperature Conductor

The Maple Valley-SnoKing 230 kV lines can experience high loading for a variety of transmission outages such as the outage of the Monroe-SnoKing-Echo Lake 500 kV line. During an outage of the Monroe-SnoKing-Echo Lake 500 kV line, power that was flowing on that line is transferred to the underlying parallel 115 kV and 230 kV systems. A large portion of this power will flow on the Maple Valley-SnoKing 230 kV lines. In addition, the implementation of the series inductors discussed previously in section 2.2 of the report will result in Seattle City Light's 115 kV system responding less to the outage of the Monroe-SnoKing-Echo-Lake 500 kV line and this will cause even more power to flow on the Maple Valley-SnoKing 230 kV lines. To accommodate the high loadings that could exist during outage conditions (up to 2400 amperes), it may be necessary to reconductor these lines with special high temperature conductor. Rebuilding the lines similarly to the Bothell-SnoKing lines would provide a better solution with greater margin, however, the rebuild option is expected to be substantially more costly than the reconductor option and would be more difficult to implement. A final decision concerning whether to rebuild or reconductor the Maple Valley-SnoKing lines should be made once the detailed engineering for the options has been completed and accurate cost estimates are available.

Several alternatives were examined to this project (See Appendix E), including the construction of a second Monroe-Echo Lake 500 kV line and a project being considered by Puget Sound Energy to upgrade the two Sammamish-Lakeside-Talbot 115 kV lines to a new 230 kV double circuit line. Both of these alternatives could eliminate the need to reconductor the Maple Valley-SnoKing 230 kV double circuit line. However, the least cost alternative was determined to be the reconductoring alternative. If Puget Sound Energy were to move forward with the

upgrade of the two Sammamish-Lakeside-Talbot 115 kV lines, the project may not be necessary.

Here are how the four project options were presented to ColumbiaGrid:



Here is a ColumbiaGrid tabulation of the study results:

Cost Estimates:

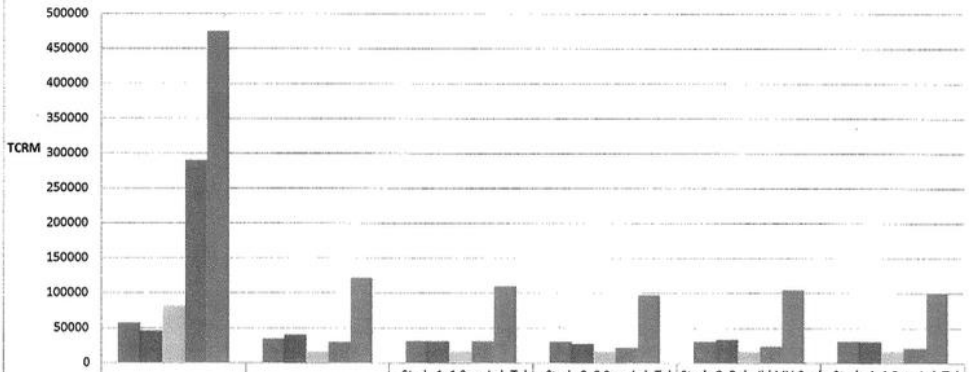
Option 1: Both lines rebuilt on single circuit structures, one energized at 230 kV, the other line remains at 115 kV, with one Lakeside 230-115 kV tx, **$40M - $57M**

Option 2: Both lines rebuilt on single circuit structures and energized at 230 kV, with one Lakeside 230-115 kV tx **$45M - $70M**

Option 3: Rebuild both Maple Valley-Snoking 230 kV lines and loop underground into Lakeside, with one Lakeside 230-115 kV tx **$114M - $193M**

Option 4: Option 1 + Reconductor both Maple Valley-Snoking 230 kV lines **$80M - $97M**

Weighted TCRM Values: Lakeside Sensitivity Comparison



	Base Case	Major Projects	Study 1: 1 Sam-Lak-Tal Falcon 230 kV & 1 Lak Xfmr	Study 2: 2 Sam-Lak-Tal Falcon 230 kV & 1 Lak Xfmr	Study 3: Rebuild MV-Snok 230 kV w/ Lakeside Loop & 1 Lak Xfmr	Study 4: 1 Sam-Lak-Tal Falcon 230 kV, 1 Lak Xfmr, & MV-Snok High Temp
SNS	57247	34860	31600	30841	30859	31600
SSN	46349	40586	31315	27892	33802	31177
WNS	81487	15881	16025	15969	15862	16025
WSN	290411	30116	30949	22537	24519	21881
Combined	475494	121443	109889	97239	105042	100683

TCRM = Transmission Curtailment Risk Measure which provides a measure of the potential risk of PSANI curtailments

In the end, however, PSE so wanted to build EE for its own purposes that it offered to pay for the entire project itself. That left BPA off the hook for paying for what it thought was a firm requirement to deliver 1,500 MW of power to Canada.

January 2012 MOA Cost Allocation

Preferred Project	Lead	MOA Projected Capital Cost	Cost Allocation SCL	PSE	BPA	Notes (see MOA for exact terms)
Bothell to SnoKing Reconductor Project	SCL	$2.5 M	$.8 M	$.8 M	$.8 M	All shall pay one-third of the "total actual capital cost"
Broad Street Inductor Project	SCL	$7.3 M	$2.4 M	$2.4 M	$2.4 M	All shall pay one-third of the "total actual capital cost"
North Downtown Inductor Project	SCL	$4.4 M	$1.5 M	$1.5 M	$1.5 M	All shall pay one-third of the "total actual capital cost"
Delridge to Duwamish Reconductor Project	SCL	$1.9 M	$.6 M	$.6 M	$.6 M	All shall pay one-third of the "total actual capital cost"
Sammamish to Lakeside to Talbot Rebuild Project	PSE	$45. M		$45. M		
Lakeside 230kV Transformer Addition Project	PSE	$22. M	$5.4 M	$11.3 M	$5.4 M	
Covington (Raver) 500kV Transformer Addition Project	BPA	$56.2 M			$56.2 M	
Northern Intertie RAS Improvement Project	BPA	$4. M			$4. M	
Deleted Project						
MapleValley to SnoKing Reconductor Project		$16.1 M	$5.4 M	$5.4 M	$5.4 M	All shall pay one-third of the "total actual capital cost" adjusted by the actual BO-SK reconductor costs

Summary of MOA Project Costs	SCL	PSE	BPA
Total Capital Cost Allocation	$10.7 M	$61.6 M	$70.9 M
Total Projected Capital Costs	$16.1 M	$67. M	$60.2 M

2013-2018 Adopted Capital Improvement Program (Loaded)		SCL
Transmission Line Inductor Installation	8461	$13.7 M
Transmission Line Reconductoring	8462	$6.3 M
	Total 2013-2018 Adopted CIP	$20. M

2013-2018 Constrant Dollar CIP Entry (entered in 2012) *		Rec'd from Mikkelson 5/7/14
Transmission Line Inductor Installation	8461	$11.7 M
Transmission Line Reconductoring	8462	$4.4 M
	Total 2013-2018 Adopted CIP	$16.1 M

* indicates that the EsPRO entries will have inflation and overheads added for each year of the project. (Received from Mikkelson 5/7/14)

2015-2020 Tentative Project Budget Request (BIP)					
Additional Funds–Transmission Line Inductor Installation	8461	$5.9 M	$1.95 M	$1.95 M	$1.95 M

In PSE's thinking, the large investment in the oversized EE project by paying for all of it itself would result in the WUTC putting the entire cost of EE into its approved rate base, i.e., the basis for what PSE is allowed to charge its customers.

So, the project would kill two birds by achieving the perceived BPA regional need while also allowing PSE to build a new 230/115 KV transformer at Lakeside. No need for the SCL "Maple Valley to SnoKing 230 kV double circuit line." Instead, PSE would build essentially the entire EE project with its own money and foist the cost on its ratepayers.

NOTE: In 2010, SCL and PSE were clearly prepared to work together in sharing each other's Eastside lines to cooperate in solving a problem. PSE didn't even have to ask SCL to make this happen.

Further, although SCL was willing to use its existing lines through the Eastside to help meet PSE's desire to have a new 230/115 KV transformer at Lakeside, its attitude about sharing is irrelevant in any case. SCL was and is required by law to share its lines with adjacent utilities, including PSE under FERC Order 888 (as long as PSE pays the cost of the looping). The crux of FERC Order 888: no utility can unreasonably deny another utility's formal request for shared uses of equipment and routes.[2]

PSE never took the steps to make that formal request.

The Big Refusal-Myth.

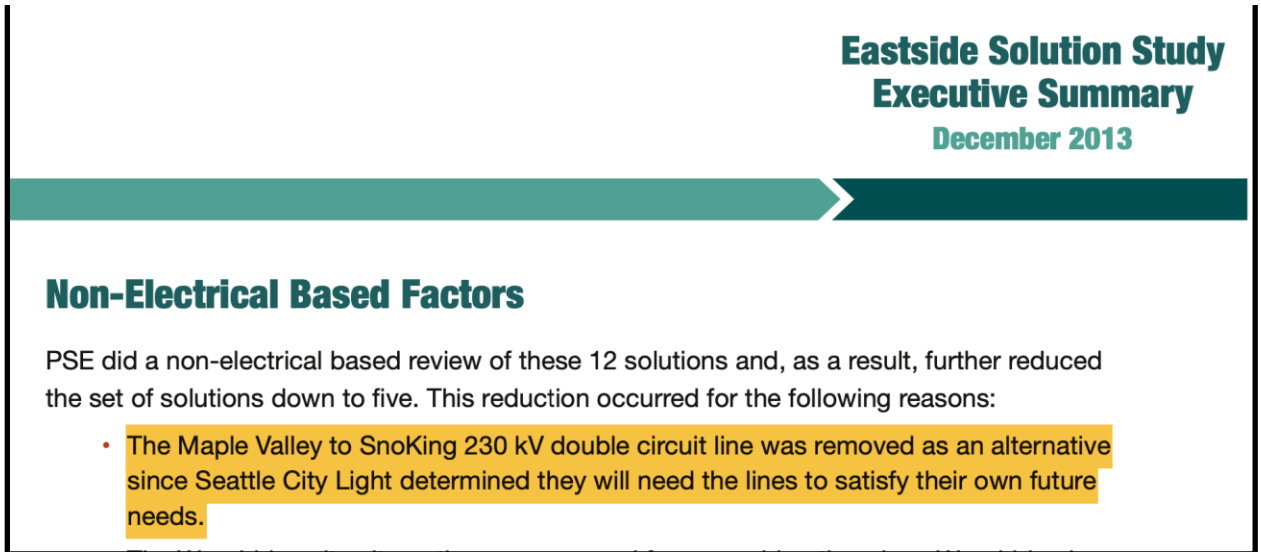
The obvious superiority of the SCL's Eastside power corridor over PSE's wires-and-jet-fuel corridor is so overwhelming that over the past eight years PSE has been forced to invent a series of inconsistent falsehoods to explain away its refusal to exercise its right under FERC Order 888 to require SCL, if necessary, to share SCL's Eastside lines that would do a better and safer job than EE. Myths were created to steer everyone away from that clearly obvious best choice.

The gist of this myth, as we shall see, is that SCL denied PSE's requests to use SCL's lines, when in fact no required formal request was ever made by PSE of SCL, and PSE's claimed purported SCL denials or refusals of such a request are false.

The "SCL-Refused-Us Myth" started right away in December 2013 when the project was unveiled, with EE being trumpeted as a shiny brand-new thing, and with no reference to its prior history under a different name and its design was for a different purpose, including a BPA perceived need to transfer 1500 MW to Canada as a firm commitment.

Out of the gate in December 2013, PSE fabricated a story that it is SCL's fault that PSE immediately and irrevocably had to close the door on SCL's lines as an alternative to PSE's own lines in the Eastside:

[2] https://www.ferc.gov/sites/default/files/2020-05/rm95-8-0aa.txt at page 25



Eastside Solution Study
Executive Summary
December 2013

Non-Electrical Based Factors

PSE did a non-electrical based review of these 12 solutions and, as a result, further reduced the set of solutions down to five. This reduction occurred for the following reasons:

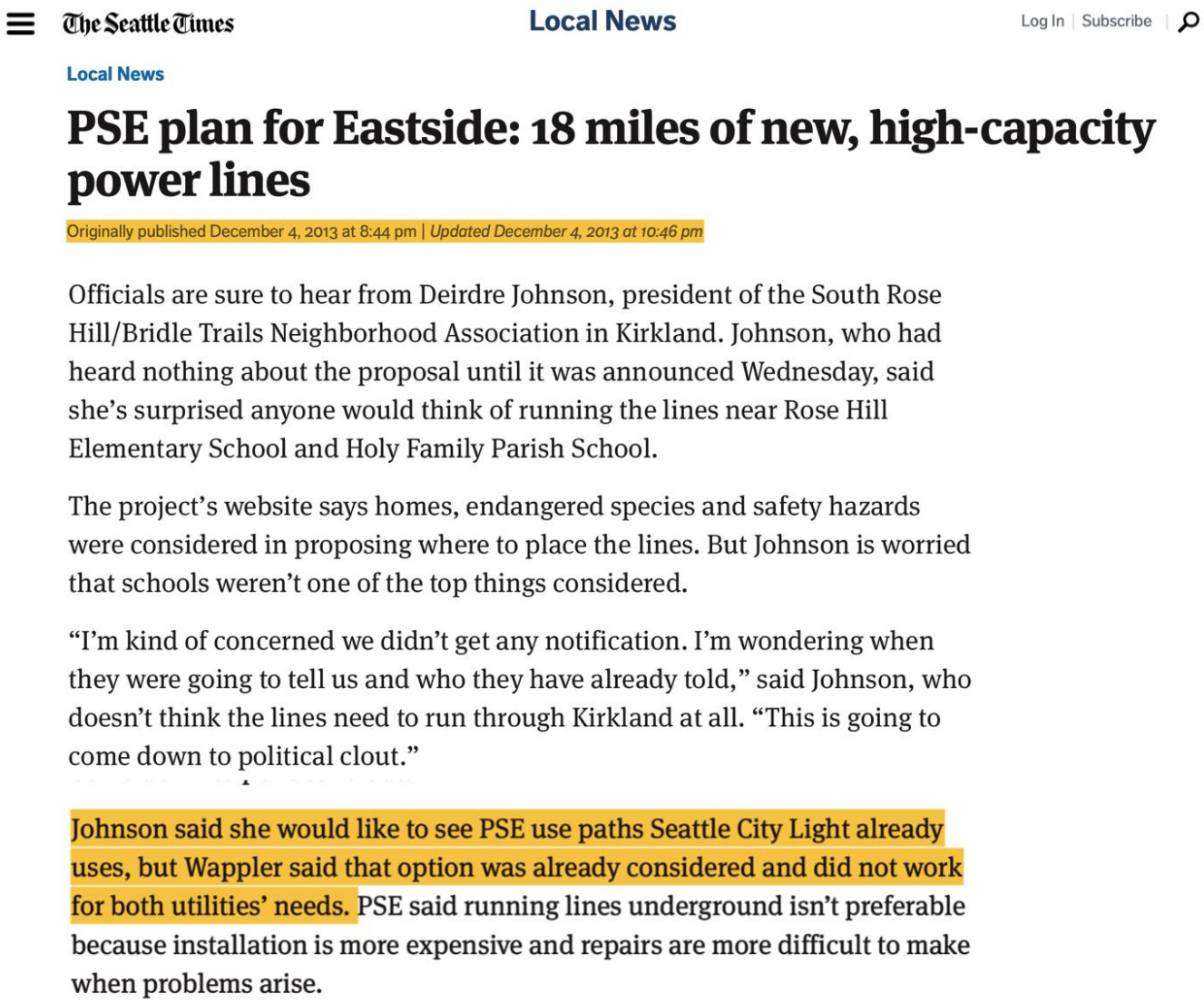
- The Maple Valley to SnoKing 230 kV double circuit line was removed as an alternative since Seattle City Light determined they will need the lines to satisfy their own future needs.

"Seattle City Light determined they will need the lines to satisfy their own future needs" is simply not true. We now know such SCL "future needs" never existed or were of such low priority and interest that nothing materialized to change the SCL lines' availability to PSE in 2010.

Another thing we know is PSE then, as now, has no documented proof to show how hard PSE tried to get SCL to cooperate with PSE, and how FERC Order 888 requiring cooperation was not invoked.

In that same inaugural month for EE, December 2013, a Seattle Times article on EE appeared (https://www.seattletimes.com/seattle-news/pse-plan-for-eastside-18-miles-of-

new-high-capacity-power-lines/). PSE spokesman for EE, Andy Wappler, was quoted to



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Local News

PSE plan for Eastside: 18 miles of new, high-capacity power lines

Originally published December 4, 2013 at 8:44 pm | *Updated December 4, 2013 at 10:46 pm*

Officials are sure to hear from Deirdre Johnson, president of the South Rose Hill/Bridle Trails Neighborhood Association in Kirkland. Johnson, who had heard nothing about the proposal until it was announced Wednesday, said she's surprised anyone would think of running the lines near Rose Hill Elementary School and Holy Family Parish School.

The project's website says homes, endangered species and safety hazards were considered in proposing where to place the lines. But Johnson is worried that schools weren't one of the top things considered.

"I'm kind of concerned we didn't get any notification. I'm wondering when they were going to tell us and who they have already told," said Johnson, who doesn't think the lines need to run through Kirkland at all. "This is going to come down to political clout."

Johnson said she would like to see PSE use paths Seattle City Light already uses, but Wappler said that option was already considered and did not work for both utilities' needs. PSE said running lines underground isn't preferable because installation is more expensive and repairs are more difficult to make when problems arise.

explain why the safer SCL Eastside lines were not selected for EE:

So now it was not just SCL's "needs" that made the SCL Eastside lines alternative not viable; according to Wappler, there were also now PSE's own "needs" that made the safer and cheaper SCL route somehow inexplicably "not work."

The Times reporter let that slide, not bothering to ask just what those "needs" were that were more important than pursuing an obviously desirable alternative.

On April 21, 2014, at a video-recorded public meeting organized by PSE to promote EE, PSE put out yet another variation of the refusal-myth.[3] Andy Wappler said PSE had held a meeting with Seattle City Light and received a “verbal refusal” from SCL denying PSE the use the SCL corridor. Andy Wappler also said that the SCL route was PSE’s “first choice” and “preferred option,” but, unfortunately, a Mr. West of SCL had refused PSE’s informal request, but he refused to put this oral denial in writing. Why, he wouldn’t say. So, unfortunately again, there was no letter or other documented proof of this informal denial. The audience would have to take Wappler’s word on that.

Wappler made no mention of FERC Order 888 and how that would have trumped Mr. West’s oral denial. Mr. Wappler made no mention of how hard PSE had tried to persuade SCL not to refuse.

Perhaps as a former TV weatherman, Wappler did not know there is a formal process under FERC Order 888 for requesting interconnections that PSE did not utilize. PSE could and should have sent a formal letter to SCL requesting "Interconnection Studies to be initiated." Other steps are involved, but collaborations for power corridor sharing like this throughout the grid are not only routine but necessary for the benefit of the entire grid.

The plus side for SCL in hosting Energize Eastside would have been that SCL could have shared in the substantial revenues from the joint effort. It would have made good business sense for SCL to have its 80-year-old Eastside lines upgraded and producing some income. As it stands, those SCL lines still lie dormant and underutilized, just as they were in 2010. They can still be put to use, and without the specter of a pipeline explosion.

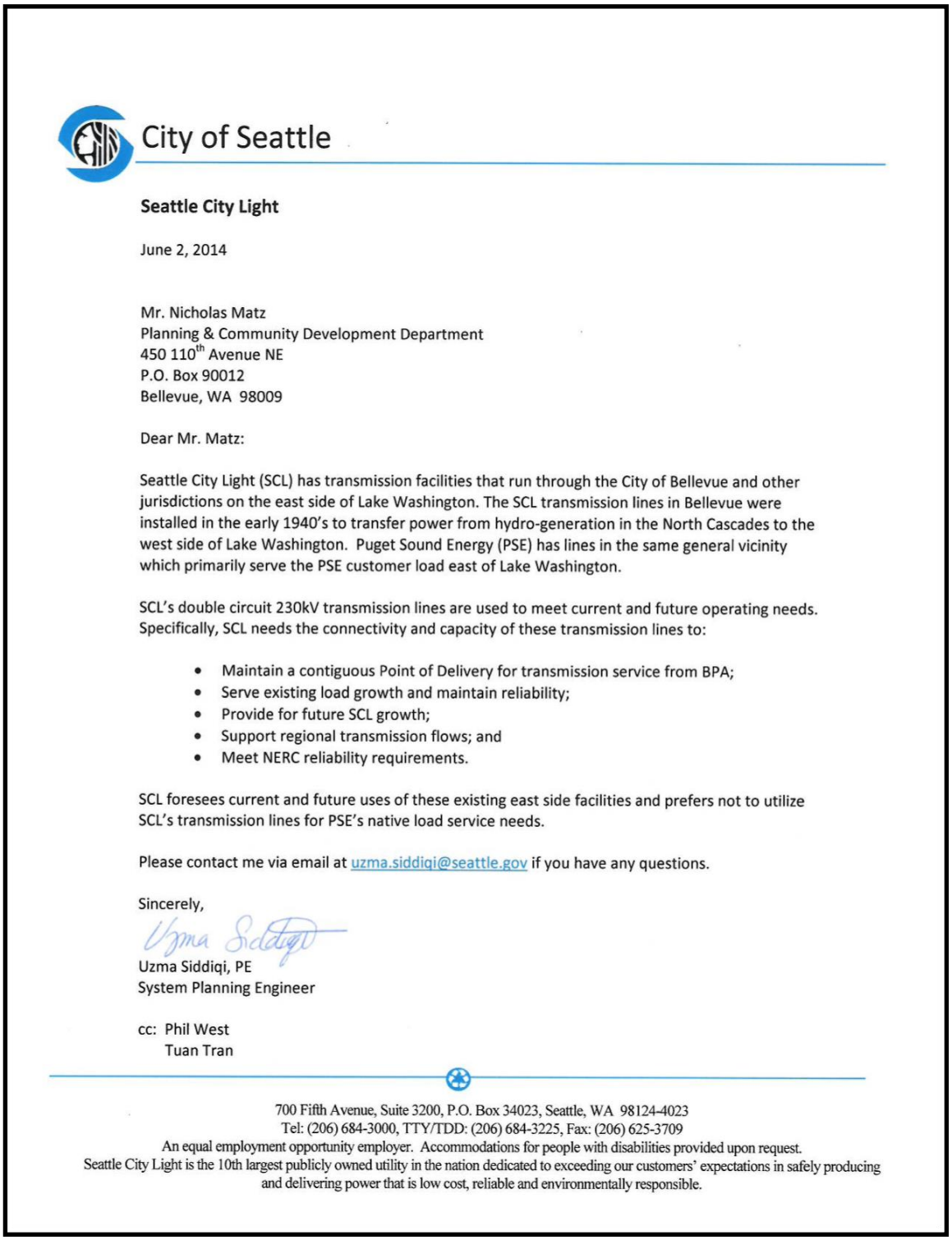
Also starting in 2013 or 2014, PSE’s Energize Eastside project FAQ pages yet another version of the SCL refusal-myth appeared:

Why can’t PSE use the Seattle City Light corridor that runs from Redmond to Renton?

PSE looked into using the Seattle City Light corridor and yes, if rebuilt, the corridor could work to meet the Eastside’s energy needs. However, PSE has been told by Seattle City Light that this corridor is a key component of their transmission system and is not available for our use [https://energizeeastside.com/faqs]

[3] video recording made by audience member Todd Anderson.

Clicking on the “is not available for our use” hyperlink takes one to a June 2, 2014, letter from Uzma Siddiqi, SCL System Planning Engineer:



City of Seattle

Seattle City Light

June 2, 2014

Mr. Nicholas Matz
Planning & Community Development Department
450 110th Avenue NE
P.O. Box 90012
Bellevue, WA 98009

Dear Mr. Matz:

Seattle City Light (SCL) has transmission facilities that run through the City of Bellevue and other jurisdictions on the east side of Lake Washington. The SCL transmission lines in Bellevue were installed in the early 1940's to transfer power from hydro-generation in the North Cascades to the west side of Lake Washington. Puget Sound Energy (PSE) has lines in the same general vicinity which primarily serve the PSE customer load east of Lake Washington.

SCL's double circuit 230kV transmission lines are used to meet current and future operating needs. Specifically, SCL needs the connectivity and capacity of these transmission lines to:

- Maintain a contiguous Point of Delivery for transmission service from BPA;
- Serve existing load growth and maintain reliability;
- Provide for future SCL growth;
- Support regional transmission flows; and
- Meet NERC reliability requirements.

SCL foresees current and future uses of these existing east side facilities and prefers not to utilize SCL's transmission lines for PSE's native load service needs.

Please contact me via email at uzma.siddiqi@seattle.gov if you have any questions.

Sincerely,

Uzma Siddiqi, PE
System Planning Engineer

cc: Phil West
Tuan Tran

700 Fifth Avenue, Suite 3200, P.O. Box 34023, Seattle, WA 98124-4023
Tel: (206) 684-3000, TTY/TDD: (206) 684-3225, Fax: (206) 625-3709
An equal employment opportunity employer. Accommodations for people with disabilities provided upon request.
Seattle City Light is the 10th largest publicly owned utility in the nation dedicated to exceeding our customers' expectations in safely producing and delivering power that is low cost, reliable and environmentally responsible.

Ms. Siddiqi's letter clearly contradicts PSE's false FAQ link language about her letter, which in fact proves exactly the opposite of what PSE FAQ contends:

1. Ms. Siddiqi says nothing about these SCL lines being a "key component of their transmission system." Instead, she "foresees" these lines, built in the 1940s, might have "current and future uses." (We know now in 2021 there were no such "future uses," and these lines are a continuing viable alternative to the EE project PSE wants to build, and without pipelines for over most all of the route).

2. Ms. Siddiqi does not say these lines are "not available for [PSE's] use," only that SCL "prefers" these lines not be shared with PSE. She also does not explain, either, why this "preference" surfaces in 2014 with no specifics attached, whereas SCL's "preference" in 2010 would have been to use these very lines to build an EE-like project of its own — but then ceded that opportunity to PSE when it offered to pay for the bulk of its own pet project. SCL has since 2014 made system upgrades in its service area that do not include these Eastside lines.

3. As noted above, per FERC Order 888, utilities must work out sharing arrangements when a formal request for sharing another utility's lines is made. That is what PSE should have done with SCL if PSE had been genuinely serious about sharing corridors. Ms. Siddiqi must have known she could only legally state in her letter a "preference," not an out-and-out refusal of availability that would go contrary to FERC Order 888.

4. Ms. Siddiqi's letter makes no mention of the fact PSE never made the necessary Order 888 formal request, and how SCL would have responded to that. But as we shall see, in a 2017 letter SCL does spell out how it would have responded — and can still respond today — if PSE submits a proper formal request.

Truth arrives in 2017, but PSE ignores it and keeps using the Siddiqi 2014 letter on its FAQ page as its excuse for not pursuing the SCL alternative. The myth turns into a Big Lie.

By April 25, 2017, the truth finally emerges in SCL's Sephir Hamilton's letter to Larry Johnson. It reveals that PSE never made a serious request to pursue its "preferred" SCL route, its "first choice." Mr. Hamilton writes:

> "Though PSE and Seattle City Light have had limited discussions about PSE's Energize Eastside project, PSE has never formally requested transmission service in Seattle City Light's Eastside transmission lines.
>
> "Obviously, if PSE would make a formal request for a transmission service at Seattle City Light's Eastside lines, Seattle City Light would respond appropriately. Likewise, Seattle City Light remains willing to discuss options with PSE regarding the potential use of Seattle's Eastside lines."

Seattle City Light

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twitter.com/SEACityLight facebook.com/SeattleCityLight

April 25, 2017

Mr. Larry Johnson
Attorney at Law
Citizens for Sane Eastside Energy (CSEE)
8505 129th AVE SE
NEWCASTLE, WA 98056

Re: PSE's Energize Eastside Project

Dear Mr. Johnson,

This letter responds to your letter dated March 20, 2017 to our General Manager, Larry Weis. We appreciate your interest in the regional energy issues and are aware of your concerns regarding Puget Sound Energy's ("PSE") Energize Eastside Project. As your letter mentions, although PSE and Seattle City Light have had limited discussions about PSE's Energize Eastside Project, PSE has never formally requested transmission service on Seattle City Light's Eastside transmission lines.
Obviously, if PSE would make a formal request for transmission service on Seattle City Light's Eastside lines, Seattle City Light would respond appropriately. Likewise, Seattle City Light remains willing to discuss options with PSE regarding the potential use of Seattle's Eastside lines. However, as PSE's project located entirely within its own service territory, PSE's project remains within PSE's discretion.

In addition, the Energize Eastside Project is not subject to the Order No. 1000 regional approval process because it is located completely within Puget Sound's service territory, it was included in Puget Sound's local transmission plan to meet Puget Sound's reliability needs, and neither Puget Sound, nor any other eligible party, requested to have the project selected in the regional transmission plan for purposes of cost allocation.

We trust that this resolves the concerns expressed in your March 20th letter with respect to Seattle City Light.

Sincerely,

Sephir Hamilton
Engineering and Technology Innovation Officer
Seattle City Light

cc: Larry Weis, General Manager, Seattle City Light

DSD 005200

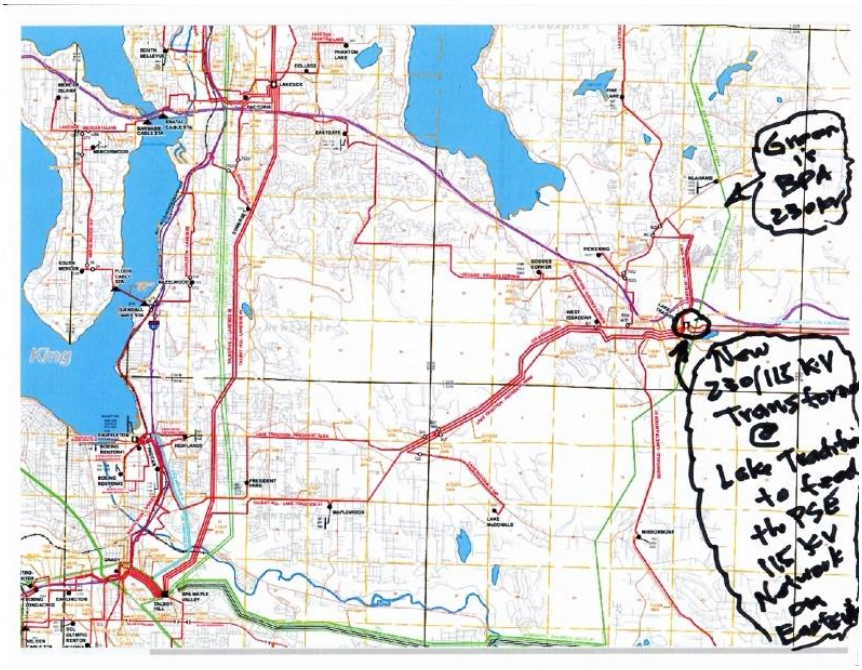
Despite PSE's knowing about this 2017 letter since at least 2019 from attending the Bellevue hearing, PSE persists to this day in making the same false FAQ statement on its website that PSE concocted in 2014, citing the Siddiqi 2014 letter that has clearly been superseded by the 2017 Sephir Hamilton letter.

Do not expect anytime soon to see Mr. Hamilton's letter posted on PSE's website. PSE has $88 million worth of reasons not to post it.

B. The Lake Tradition Alternative

This alternative was discussed back when I was still working at Puget. We were experiencing significant increases in electrical demand on the Eastside in those years. The Eastside was served via an expansive network of 115 KV transmission lines. Two switching stations had extensive 115 KV switching capability, but no 230/115 KV transformer. Those switching stations were the Lakeside 115 KV switching station and the Lake Tradition 115 KV switching station.

While the demand had not increased to the level that new 230/115 KV transformer was imminently needed, we were looking ahead to see when the demand might increase so much that a new 230/115 KV transformer would be needed to feed into the extensive 115 KV network of transmission lines. We noted that there was an existing Bonneville Power Administration 230 KV line that was literally a stone's throw away from our Lake Tradition 115 KV switching station. Bonneville would be willing to let us tap into that line at Lake Tradition to serve a new 230/115 KV transformer at Lake Tradition, thereby injecting the additional power needed into the expansive 115 KV network on the Eastside. Attached is a drawing showing the location of the existing BPA 230 KV line and the large number of 115 KV lines that attach to the Lake Tradition switching station.



When I proposed this alternative in my Alternatives Expert Report in the Bellevue hearing, PSE told the hearing examiner that they ruled out this alternative because some of the existing 115 KV lines connecting to the Lake Tradition switching station might get overloaded, and if so, those lines would need to be re-conductored (fitted with new wires).

PSE's excuse is insufficient for the following reasons:

a) PSE never ran a load flow study on his alternative to see if any of these 115 KV lines would in fact become overloaded. Such a study should have been done and the details of that study made available to third parties for inspection.

b) If that study showed some overload on the existing 115 KV lines, then estimates of the cost of re-conductoring those overloaded 115 KV line segments should have been made.

c) Finally, the cost and environmental impact of this Lake Tradition alternative could then be compared to the cost of EE and other alternatives to determine the best alternative. PSE failed to take the inexpensive steps needed to make such a cost comparison.

d) Based on my experience of 40+ years devoted to power planning, it is my opinion that the cost of re-conductoring lines as needed to make Lake Tradition a viable and better alternative to EE would be several millions of dollars cheaper than EE, and much safer.

C. The Lakeside Peaker Plant Alternative

This alternative would inject 115 KV power into the extensive network of 115 KV lines on the Eastside at the Lakeside Switching station. Based on the PSE graphic below that the Eastside would start needing new injections of power into the expansive 115 network of transmission lines on the Eastside by the year 2018, and PSEs graphic showing that need growing over future years, I determined a 50 MW peaker plant at Lakeside would solve any problems for many years into the future. These 50 MW peaker installations take up little ground and could be located on the footprint that PSE planned for a new 230/115 KV transformer at Lakeside. Because the need for more power injected into the 115 KV grid at Eastside only occurs on extreme peak load days coupled with an assumed simultaneous failure of two transformers at Sammamish and Talbot Hill, the 50 MW peaker would seldom run if ever needed, and it would only need to be run for a short period of time. Fuel for the plant could be stored on site and would only need a small volume of fuel.

PSE rejected this alternative because they claimed that Bellevue would never approve a permit for a 50 MW peaker at Lakeside. PSE stated that Bellevue would prefer a transmission line through Newcastle over a 50 MW peaker at Lakeside. While Bellevue may prefer that Newcastle take an environmental hit to avoid Bellevue having a 50 MW

peaker at Lakeside, it is beyond me why Newcastle would agree to take an environmental hit because Bellevue theoretically and preemptively will not allow construction of a 50 MW peaker in Bellevue to serve increasing load within the Bellevue City limits. As with the Lake Tradition alternative, PSE has blithely assumed away a superior but far less lucrative alternative than EE based purely on self-serving speculation.

PSE never ran a load flow study on his alternative to see if this 50 MW peaker alternative would solve the problem. Such a study should have been done and the details of that study made available to third parties for inspection.

Again, based on my experience of ____ years devoted to power planning, it is my opinion that building a peaker plant where the load is, eliminating the need for more transmission lines and steel towers, is a viable and better alternative to EE, and several millions of dollars cheaper than EE, and much safer.

C. The Demand Side Management ("DSM") Alternative

This alternative would eliminate the need for any new 230/115 KV transformer on the Eastside to serve the expansive network of 115 KV lines on the Eastside by lowering demand.

DSM to solve load growth issues for utilities became a hot topic in the 1980's. At that time, I was heavily involved in developing Puget's first "Integrated Resource Plan" (IRP). We were aware that IRPs needed to look not only at supply side alternatives to meet our load growth, but also at DSM activities that would cause the load to be reduced. To educate ourselves on DSM matters, we arranged for Eric Hurst, an expert on DSM from the Oakridge National Laboratory in Tennessee, to come to PSE for a year and provide this much needed education. PSE used the knowledge we learned from Eric Hirst to create a DSM staff.

In the Bellevue Hearing on EE, a consultant from Portland, Oregon, by the name of Ken Nichols, developed a report on DSM alternatives to EE. His report goes into great detail on the types of DSM programs that PSE could adopt to cancel the need for EE. I provide a copy of that report to the HE in this Newcastle proceeding and adopt it as supplementary to my report.

I note that MaxETA/Synapse also has expertise in DSM like that at EQL Energy. MaxETA/Synapse has stated as follows:

> "[W]e note that there were various actions and measures PSE could have taken over the past 10 years or more to avoid the current situation. Such actions include actually implementing targeted demand-side resources, rather than just studying them, and also identifying and acting upon summer peak savings opportunities that have been neglected for many years. These actions would have allowed PSE to avoid the current serious condition that could now be jeopardizing its service to

> customers under transmission contingencies, as well as reduce the need to implement Corrective Action Plans (CAPs), while providing additional net benefits to the area because many demand side resources are cost-effective on their own." [Johnson Exhibit RL-10, last paragraph on page 5]

This DSM alternative is a much-preferred alternative to the environmentally problematic EE project. As noted by MaxETA/Synapse, DSM has been an obvious, commonplace, and inexpensive approach to reducing reliability risks and should have been implemented by PSE ten years ago. But as should be apparent by now, PSE wants only the biggest and most expensive project to be approved, no doubt to satisfy the foreign pension funds that own it. That will cause the WUTC to increase retail electric rates to PSE Retail Customers and thereby increase the revenues and enhance the profits of the PSE foreign owners.

III. The MaxETA/Synapse Report

MaxETA Energy, PLLC and Synapse Energy Economics, Inc. provided a draft Assessment of the Proposed Energize Eastside Project. For some unknown reason, the version of his report included in the NC staff report varies by removing the recommendations that were included in the original draft. Why that change was made is a mystery that needs to be understood.

MaxETA Energy and Synapse Energy Economics studied the need for EE in a Winter peak load condition and in a Summer peak load condition using Load Flow Analysis. Their findings were as follows:

A. The Winter Peak Load Condition

MaxETA/Synapse stated, "we cannot conclude based on the data we analyzed whether there is any clear need created by the winter peak load for transmission capacity expansion in the future." (Page 28, Findings). This finding is fully consistent with the Lauckhart-Schiffman report where Schiffman and I could not conclude that there was a winter need for EE. MaxETA/Synapse did their load flow analysis using the Quanta 2013 load flow data base. MaxETA/Synapse had learned that the substations loads in the Quanta 2013 studies for 2018 were too high. Therefore, MaxETA/Synapses changed the substation loads in the Quanta database to the loads that MaxETA estimated would exist on PSE Eastside substations in the year 2021. It is not clear if MaxETA/Synapse made any other changes to the Quanta 2013 studies since PSE has refused to let MaxETA/Synapse provide us the data they used in their load flow studies. But the reduction in loads alone caused MaxETA/Synapse to conclude that Energize Eastside is not needed to cover a Winter peak load situation with two contingency outages.

B: The Summer Peak Load Condition

MaxETA/Synapse stated

> "our analysis shows that the current summer electric peak demand in King County has already triggered an operational need for the proposed transmission expansion to address system contingency scenarios and ensure the security of the Bulk Electric System." This statement includes a footnote number 6 which states: "An unsecured Bulk Electric System could impact the reliability of electric service in Newcastle."

The Bulk Electric System has been defined by FERC as: "Bulk Electric System" means, as defined by the Regional Entity, the electrical generation resources, transmission lines, interconnections with Neighboring systems, and associated equipment, generally operated at voltages of 100kV or higher.

In other words, MaxETA/Synapse found demand in King County as a whole, when coupled with certain contingency outages, could cause stability problems in the entire interconnected WECC transmission grid. Any such problem and its possible solutions would need to be addressed by WECC itself and not discovered and found by PSE.

MaxETA/Synapse also state:

> "Our review of historical summer peak loads and the capacity thresholds in King County provided by PSE shows that there is a summer transmission capacity deficiency in King County under N-1-1 contingencies even at today's peak load level. We further find that this capacity deficiency for the summer season has been 13 to 20 percent (or 200 to 300 megawatts, or MW) above the area's capacity threshold."

The population of King County is 2.23 million People. The population of Seattle is 737,000 people. The population of Bellevue is 148,000 people. SCL has a winter peak load in the range of 2,000 MW. The winter peak load on the east side is in the range of 750 MW.

Clearly the 200-300 MW deficiency would not be on the eastside and, despite what MaxETA/Synapse says, EE could not solve that problem if it exists.

<u>But if this is a current problem and has been a problem for many years, why has WECC not found it? Why has BPA not found it? Why has SCL not found it? Why has PSE not found it? Why has this problem not been raised anywhere?</u>

In 1990 all the utilities in the Puget Sound Region had found a potential voltage collapse problem in the Puget Sound Region. They all got together to discuss the problem and how to best eliminate the problem.

In 1990 a Letter Agreement was signed by all the utilities in the Puget Sound Region in which they agree to work together to find a solution. Nothing like this has ever been

done to address the MaxETA/Synapse (bogus) summer peak finding. No such problem has been identified by the utilities in the region.

MaxETA/Synapse indicates that EE may be able to solve this region wide problem but does not state the PSE retail customers need to pay to solve this region wide problem. MaxETA/Synapse indicates the problem can be solved with Demand Side Management programs that PSE should have been doing over the past 10 years. MaxETA/Synapse states that these DSM programs can solve the Summer Peak problem they found today. The following are excerpts from the draft MaxETA/Synapse report:

> "...we note that there were various actions and measures PSE could have taken over the past 10 years or more to avoid the current situation. Such actions include actually implementing targeted demand-side resources, rather than just studying them, and also identifying and acting upon summer peak savings opportunities that have been neglected for many years. These actions would have allowed PSE to avoid the current serious condition that could now be jeopardizing its service to customers under transmission contingencies, as well as reduce the need to implement Corrective Action Plans (CAPs), while providing additional net benefits to the area because many demand-side resources are cost-effective on their own."

> "...PSE should seek to procure as much demand response (DR) as possible along with energy efficiency, solar PV, and combined heat and power because DR has some advantages over other resources: (a) DR is an untapped resource in the region; (b) DR can be quickly procured; (c) DR can be dispatched by PSE; and (d) DR has the potential to deliver a large amount of summer peaking reduction within a short time frame. PSE's current efforts to secure DR capacity seem lukewarm at best."

> "...PSE or the Washington Utilities and Transportation Commission (WUTC) should consider developing an independent third-party model for evaluating and/or procuring NWA (non-wires-alternatives) as part of the transformation of the transmission planning process."

> "...While the City of Newcastle does not have the regulatory authority to require the actions we recommend above regarding demand-side measures, we believe they would be prudent utility actions that the utility should undertake of its own volition, and that the WUTC should give them due consideration and support for rate recovery if pursued in a prudent manner. We believe that PSE should take proactive actions to implement our recommendations and reach out to WUTC as it reforms its current transmission planning process and load forecast."

I have serious concerns about the Summer Peak load problem that MaxETA/Synapse found. I note the following:

1) WECC has not identified such a problem

2) BPA has not identified such a problem
3) SCL has not identified such a problem
4) PSE has not identified such a problem
5) RC West (the CAISO operated Reliability Coordinator for the WECC region) has not found such a problem
6) NorthernGrid (the replacement for ColumbiaGrid) has not found such a problem.
7) Appendix G of the Lauckhart-Schiffman report address the summer peak situation and concluded that there would not be expected to be any summer peak problem related to the Eastside.
8) There has been no regional effort to identify and address this alleged King County summer problem like there was in 1990 to address a similar Puget Sound Area winter problem.

In order to perform an autopsy on the MaxETA/Synapse work that identified this Summer Peak load problem, I have requested that MaxETA/Synapse provide me the five key input/output files from the Load Flow studies they ran that found this problem. PSE has refused to let MaxETA/Synapse provide me the data they used in their load flow studies. This refusal makes no sense because if the MaxETA/Synapse finding is true, it needs to be widely communicated to WECC, BPA, SCL, NorthernGrid and RC West so that the many alternatives to fixing the problem can be identified and studied to find the best alternative by the utilities involved which would include, as a minimum, BPA, PSE, and SCL.

IV. The PSE December 1, 2021 filing

In this filing, PSE did not update any of its load flow analysis. PSE continues to rely its 5 year out of date studies with 7 fatal flaws. PSE did not refute the MaxETA/Synapse finding that there is not a Winter Peak need for Energize Eastside. Instead, in PSE Exhibit A-17, Jens Nedrud relies on the MaxETA/Synapse Summer Bulk Electric System vulnerability to justify the need for Energize Eastside. PSE itself has never made such a finding. MaxETA has refused to provide the needed load flow data files that support their contention that there is a Summer Bulk Electric System vulnerability that needs to be fixed by building Energize Eastside.

If MaxETA/Synapse or PSE found a Summer BES vulnerability, PSE should have advised all reliability organizations in WECC, including (a) WECC itself, (b) NorthernGrid, (c) BPA, (d) SCL and (e) RC West. Then there would have been an open process headed by these organizations to discuss the legitimacy of the problem. If the problem was found to be legitimate, there would have been a coordinated effort to find options/alternatives that would address the problem in an optimal manner. That process would also have involved public participation and likely the requirement to get permits from EFSEC or local entities.

Since none of these reliability organizations in WECC (including PSE) have ever indicated there was a Summer BES vulnerability caused by a transmission deficiency in King County, then any suggestion that EE is only needed for this **never validated problem** is not sufficient to grant the CUP for the line.

V. Responsible Power Planning

I worked for Puget for 21 years, including 5 years as Vice President of Power Planning. We performed our Power Planning duties in a responsible cost effective, and environmentally conscious manner. Examples of Responsible Power Planning are:

A. John Ellis decision in 1991

In 1991 our engineers decided we needed to deal with a reliability problem and also wanted to plan for long term growth in areas east of Lake Sammamish. They designed a long 115 KV line that passed through several towns east of Lake Sammamish. Residents in those towns did not like long 115 KV line that passed through their towns. They felt such plans could not be justified. They were objecting in several permit proceedings.

I was aware that we could solve the reliability problem for several years into the future by just tapping an existing Bonneville Power Administration transmission line. I asked our Puget engineers if they looked at the alternative. The answer I got from our engineers that they preferred to own lines rather than contracting with BPA to use those lines.

In one of our weekly officer meetings our CEO (John Ellis) raised a concern about the anti-Puget sentiment that was growing over the issue. I mentioned to John Ellis that the BPA alternative would be much more cost effective and would avoid the new line altogether for many years into the future.

John made the decision to go with the alternative to Tap the BPA existing line and end our pursuit of permits for the more expensive and environmentally problematic line. That kind of thinking seems to have vanished under the new foreign ownership of Puget.

B. BPA I-5 Corridor Reinforcement Project

The Bonneville Power Administration I-5 Corridor Reinforcement Project was a proposed 80-mile, 500-kilovolt transmission line that would have stretched from Castle Rock, Washington, to Troutdale, Oregon. There was great public opposition to this project. While Quanta and PSE assumed this project would be built when they ran their load flow studies in 2013, this project has been canceled.

On May 17,2017, Elliot E. Mainzer, Administrator and Chief Executive Officer of BPA wrote that he was cancelling the project. See Exhibit RL-18. His explanation was

> "BPA proposed the I-5 Corridor Reinforcement project in 2009 as a solution to preserve reliability, meet existing contract requirements, reduce curtailments, and serve demand on the transmission system – which at the time was growing. More recently, BPA considered the size, local impacts and increasing costs of the proposed project, which prompted us to take a hard look at all of our transmission practices and analytics, including a fresh look at load (electrical demand) forecasts, generation changes and market dynamics. As a result of this comprehensive review and the inherent difficulties associated with building this line, we are taking a new approach to managing congestion on our transmission grid. My decision today reflects a shift for BPA – from the traditional approach of primarily relying on new construction to meet changing transmission needs, to embracing a more flexible, scalable, and economically and operationally efficient approach to managing our transmission system. We will also increase our reliance on advanced technology, robust regional planning, industry standard commercial practices and coordinated system operations."

<u>This BPA comprehensive review of this BPA proposed line and the decision to take a different/alternative approach to meeting its needs is an example of Responsible Power Planning.</u>

When you are involved in a project like Energize Eastside that has the potential of causing massive damage and deaths, you should probably try to find a less dangerous alternative if possible. You cannot be sure what might happen. <u>That would be responsible power planning!</u>

VI. <u>Conclusion</u>

As is well documented in this report, PSE fails in its legal burden to prove project need. The PSE CUP for Energize Eastside should be denied. If PSE thinks the denial was improper, PSE has the option of taking the matter to EFSEC. That is where they should have gone in the first place and they have that option if Newcastle denies their CUP application.