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UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

COALITION OF EASTSIDE NEIGHBORHOODS FOR SENSIBLE ENERGY (CENSE), a nonprofit Washington corporation; CITIZENS FOR SANE EASTSIDE ENERGY (CSEE), a nonprofit Washington corporation; LARRY G. JOHNSON and GLENNA F. WHITE, husband and wife; and STEVEN D. O'DONNELL, individually;

Complainants,

vs.

PUGET SOUND ENERGY, a for-profit Washington corporation; SEATTLE CITY LIGHT, a public utility and department of the City of Seattle; BONNEVILLE POWER ADMINISTRATION, a federal agency and marketing agent for federally owned Northwest power facilities; and COLUMBIAGRID, a nonprofit Washington corporation,

Respondents..

Docket No.

Affidavit of J. Richard Lauckhart

I, J. Richard Lauckhart, being duly sworn, hereby depose and state the following:

- 1 1. I am an energy consultant living in Davis, California. I have spent my professional
2 career working in the power industry. That professional career spans 40 years. I have
3 worked as a distribution engineer, a transmission planning engineer, a financial analyst
4 for an investor-owned electric utility, a Vice President of Power Planning for an
5 investor-owned utility, and then as a consultant in all aspects of the power business.
6
- 7 2. I have been qualified as an expert witness to testify in a number of proceedings before
8 state and federal regulatory bodies, including FERC.
- 9 3. My resume is Attachment A to this affidavit.
- 10 4. I have been asked by Claimants to provide analyses and expert opinion on the need and
11 scope of Puget Sound Energy's approach and justification for its proposal to build a
12 new 18-mile double circuit 230 KV power line through a very large number of
13 residential neighborhoods across five cities east of Seattle known collectively as "The
14 Eastside," comprised of the cities of Bellevue, Kirkland, Redmond, Renton and
15 Newcastle.
16
- 17 5. PSE calls this new line and associated 230/115 KV transformer the "Energize Eastside"
18 project.¹ PSE claims the new 18-mile line is necessary to feed a new 230/115 KV
19 transformer closer to the City of Bellevue where expected future Eastside demand is
20 concentrated. PSE claims that if this line and station are not built that blackouts are
21 possible.
22
- 23 6. ColumbiaGrid is a non-profit membership, Washington State corporation that was
24 formed on March 31, 2006. ColumbiaGrid's declared purpose is to coordinate the use
25 and expansion of participating transmission networks, thereby improving the
26 operational efficiency, reliability and planned expansion of the Pacific Northwest
27

28 ¹ PSE's website for this project is www.energizeeastside.com.

1 transmission grid. ColumbiaGrid claims to achieve this coordination through functional
2 agreements offered to its members and other qualified non-member parties. The
3 ColumbiaGrid Planning and Expansion Functional Agreement (“PEFA”) is one such
4 functional agreement that has been revised periodically in attempts to adapt to evolving
5 FERC Orders and regulations.
6

- 7 7. The PEFA was originally accepted by FERC on April 3, 2007, and subsequent
8 amendments to the PEFA were accepted by FERC. ColumbiaGrid performs a number
9 of services under the PEFA. Primarily, ColumbiaGrid agrees to prepare a Biennial
10 Transmission Plan, and as part of that process performs system assessments of the
11 PEFA parties' transmission systems.
12
- 13 8. Through the PEFA framework and in lieu of being a directly regulated Regional
14 Transmission Organization (“RTO”), ColumbiaGrid has promised FERC to facilitate
15 for the PEFA Parties a coordinated planning process for the development of multi-
16 transmission system projects.
17
- 18 9. To satisfy the regional transmission planning requirements of FERC’s Order No. 890,
19 on December 7, 2007, ColumbiaGrid members Avista and PSE submitted amendments
20 to their Open Access Transmission Tariffs ("OATTs"), creating an Attachment K to
21 their tariffs that set forth a regional transmission planning process, incorporating, where
22 applicable, descriptions of the elements of the sub-regional transmission planning
23 process established by the PEFA. In addition, BPA submitted a petition for declaratory
24 order granting reciprocity approval for the purpose of including a transmission planning
25 process as part of its "safe harbor" OATT.²
26

27
28 ² Through this voluntary act BPA made itself subject to indirect FERC jurisdiction for Order 890 purposes. FERC Order 1000 incorporates and expands upon Order 890, yet for reasons explored later in this affidavit, BPA has

1 10. FERC/NERC have established a Transmission Planning Reliability Standard whereby
2 all utilities, including BPA, PSE and SCL are required to comply with that
3 Transmission Planning Reliability Standard.

4 11. As will be explained in further detail in this affidavit, ColumbiaGrid (and its member
5 utilities) are not acting in compliance with FERC Order 1000 because they have yet to
6 agree on a PEFA that brings them into compliance. Further, it appears that its members
7 are not in compliance with the FERC/NERC Transmission Planning Reliability
8 Standard TPL-001.
9

10 12. On October 11, 2012, PSE made its FERC Compliance Filing regarding Order 1000.
11 Attachment B. In that Compliance Filing, PSE states it will use ColumbiaGrid and its
12 PEFA as its method of complying with FERC Order 1000. Id., p. 4. FERC assigned
13 PSE's Compliance Filing regarding Order No. 1000 Docket Numbers ER13-99 and
14 ER15-429.
15

16 13. A review of all the filings and FERC Orders in those Dockets reveals that PSE is unable
17 to use ColumbiaGrid and its PEFA as its method of complying with FERC Order 1000
18 because BPA and SCL have refused to let them do so. See notes of my telephone
19 conversation with a senior executive at ColumbiaGrid, Attachment C, p. 2. There have
20 been considerable filings at FERC and FERC Orders on this matter between the dates of
21 Oct 11, 2012, and today. Clearly, FERC believes that BPA and SCL need to use
22 ColumbiaGrid to make them Compliant with FERC Order 1000. BPA and SCL
23 continue to resist, however, effectively subverting Order 1000's purpose and
24
25

26 argued varying degrees of Order 1000 compliance it claims it is subject to. I believe from recent FERC orders,
27 such as in the May 14, 2015, FERC Order in Docket Nos. ER15-422 and ER15-429, 151 FERC ¶ 61,127,
28 however, that the Commission takes the more logical position that Order 1000 for the ColumbiaGrid utilities
becomes meaningless if government-owned utilities can opt out. Indeed, PSE cannot possibly call itself Order
1000 compliant if its largest neighbors shun the regional planning process contemplated by the "single utility" rule
embodied in Order 1000.

1 effectiveness. FERC needs to enforce Order 1000 to ensure meeting the important
2 public policy goals FERC is intending to accomplish are achieved.

- 3 14. In its Order on May 14, 2015 in Docket Nos. ER15-422 and ER15-429, 151 FERC ¶
4 61,127, FERC, again told ColumbiaGrid participants to make compliance filings that
5 are consistent with FERC Order 1000. Regarding BPA, page 2, footnote 3 in that Order
6 states as follows:
7

8 In the First Compliance Order, the Commission noted that Bonneville Power
9 is not a public utility under section 201 of the FPA, 16 U.S.C. § 824 (2012),
10 and is not subject to Commission directives made pursuant to FPA section
11 206; however, in reviewing proposed revisions to Bonneville Power's OATT,
12 the Commission indicated further revisions were needed in order for
13 Bonneville Power's OATT to substantially conform to the *pro forma* OATT,
14 as modified by Order No. 1000. First Compliance Order, 143 FERC ¶ 61,255
15 at P 2 n.4. However, Bonneville Power has not, at this time, submitted a
16 compliance filing with further revisions.

- 17 15. FERC is clearly appropriately holding BPA's feet to the fire in requiring BPA to comply
18 with FERC Order 1000. This most recent Order is the result of an on-going back and
19 forth of long tug-of-war exchanges between BPA, PSE and other utilities that have
20 passive-aggressively resisted compliance with FERC Order 1000. For a brief summary
21 and chronology, see Attachment D.

- 22 16. Meanwhile, FERC should not let PSE, BPA and SCL avoid FERC Order 1000
23 compliance by failing to use ColumbiaGrid to evaluate and plan for alternatives to the
24 PSE-proposed Energize Eastside project. FERC should order ColumbiaGrid and its
25 member utilities, including PSE, BPA and SCL, to study alternatives to PSE's proposed
26 Energize Eastside line as CENSE/CSEE requested in letters to those entities on May 8,
27 2015 and May 15, 2015, respectively. Attachments E and F to this affidavit. As will be
28 noted in greater detail, those requests were rejected.

1 Without those studies being done, it is likely that PSE will build the Energize Eastside
2 line, and that would not be the preferred solution per Order 1000 to identified future
3 reliability problems. As will be detailed later in this affidavit, Energize Eastside is not
4 the lowest-cost and least environmentally harmful solution to the Eastside's reasonably
5 anticipated future reliability problems.
6

7 II. PSE'S ORDER 1000 NONCOMPLIANCE AND FACTUAL OVERVIEW

- 8 17. FERC Order 1000 states that if a proposed new transmission lines project meets more
9 than one need, that there is no right of first refusal to the incumbent utility (in this case,
10 PSE) to build the line. Any such new transmission lines project such as Energize
11 Eastside meeting more than one need must be put out to bid in order for the best bidder
12 to be given the right to build and own the line. FERC Order 1000 also requires the costs
13 for such a project be allocated fairly among those utilities which the project benefits.
14
15 18. Energize Eastside has dual needs. It is intended to meet both PSE local Eastside load as
16 well as providing additional transmission capacity to support 1500 MW of flow north to
17 Canada. PSE has (erroneously) determined that this need to provide transmission to
18 support a 1500MW flow to Canada is an immutable, fixed obligation that BPA needs to
19 fulfill because of the terms of the Columbia River Treaty.³ That treaty states that
20 Canada's entitlement to Treaty power was to be delivered to Canada via a major new
21 transmission line that BPA was to build. But BPA never built that line.⁴ Thus the
22
23

24 ³ BPA has known since at least 1998 (when the treaty was amended) that it would not be able to deliver Canada's
25 share of downstream benefits to Canada under all weather and contingency conditions. In 2009, Puget Sound Area
26 Study Group members developed a draft report entitled "Assessment of Puget Sound Area/Northern Intertie
27 Curtailment Risk." Attachment G. That study describes certain system operating plans that could reduce the
28 Curtailment Risk in the south-to-north direction on the tie to Canada.

27 ⁴ The treaty deliveries to Canada were by its terms supposed to be accomplished by BPA building a new
28 transmission line in Eastern Washington north to the Canada border near Oliver, BC, east of the Cascades. BC
Hydro was supposed to build from their system in British Columbia to meet the new BPA line. Under that plan,
there would be no impact on transmission in Western Washington and PSE ratepayers would have paid nothing to
cause the Columbia River Treaty benefits to be moved to Canada. But BCHydro and BPA decided to use existing

1 Energize Eastside line is designed to serve the dual purpose of meeting PSE load and
2 being capable of delivering 1,500 MW of primarily Columbia River Treaty power to
3 Canada. In terms of maximum power transfer capability, BPA stands to be the major
4 beneficiary of the proposed Energize Eastside project.

5
6 19. Any contemplated new transmission lines project that meets more than one need must
7 comply with FERC Order 1000. By moving forward with Energize Eastside on its own,
8 PSE violated several provisions of FERC Order 1000 as further explained in the next
9 paragraphs.

10
11 20. First, the proper FERC Order 1000 procedures for doing transmission planning were not
12 followed. Under FERC Order 1000, and for that matter, under the earlier Order 890
13 that was incorporated into Order 1000, ColumbiaGrid needs to do the initial
14 determination of whether problems exist on the regional system. Then if they find some,
15 its members and other interested stakeholders need to be told of the problems and
16 allowed to bring candidate plans to resolve the problems. This was not done with
17 respect to Energize Eastside, and that needs to be done.⁵
18

19
20 BPA/BCHydro lines instead. These lines are essentially the double circuit 500 KV lines that cross the border at
Blaine. So if after 50 years under the treaty BPA and BCHydro are having trouble making that work now, then
why should PSE and its ratepayers be required to make and pay for the "fix"?

21 Proper load studies should do the following: Set the PSE need with the Northern Intertie loading at zero. Find the
best fix for PSE load only. Then if BPA and BCHydro still have a problem delivering the Canadian treaty power,
22 let them find their solution. One such solution is to simply decide not to deliver that Canadian Treaty power to
Canada during arctic events. BCHydro could have the power delivered somewhere in Washington or parts south.
23 BC Hydro will get a very good price for that power if it is sold in the states during an arctic event. In any event,
BC Hydro is not planning on using that power to cover their own peak load. See BCHydro 2013 IRP at
24 https://www.bchydro.com/energy-in-bc/meeting_demand_growth/irp/document_centre/reports/november-2013-irp.html

25 ⁵ In answering a series of questions posed to PSE in March 2015 by Complainant Larry Johnson, Mark
Williamson, PSE's consultant designated by PSE to answer project-related questions, stated that Energize Eastside
26 is "essentially the same" as prior PSE candidate projects going back to 2009, entitled "Sammamish to Lakeside to
Talbot Rebuild Project" and "Lakeside 230 kV Transformer Addition Project," but Williams further elaborated:
27 "They are essentially the same from a needs perspective. What is different is the implementation of the projects.
For example, what is contemplated in the Columbia Grid [sic] listings are a complete rebuild in the existing
28 corridor. The Energize Eastside project includes options that may not end up in the existing corridor." Attachment
H. I have been unable to find any ColumbiaGrid document that shows it considered let alone has had any

- 1 21. Second, then ColumbiaGrid needs to study the candidates and, in an open process,
2 confer with interested parties about their power flow studies. This was not done and
3 needs to be done. Only then can a regionally-vetted solution be identified.
4
- 5 22. Third, if ColumbiaGrid determines that the preferred solution is one that meets the goals
6 of more than one entity (in this case, PSE local need and BPA desire to increase the
7 Path Rating from Canada from 2,000 MW to 3,000 MW)⁶, ColumbiaGrid needs to
8 come up with a fair allocation of the costs of the project. This was not done.
- 9 23. Finally, if ColumbiaGrid determines that the preferred solution is one that meets the
10 goals of more than one entity, then PSE has no Right of First Refusal and there needs to
11 be a Request for Proposals issued to decide who will build and own the project. This
12 was not done.
13
- 14 24. FERC Order 1000 requires planning of new transmission lines must meet coordinated,
15 rational, regional "single utility" criteria. Energize Eastside does not meet those criteria.
- 16 25. By its 2012 Compliance Filing with FERC 1000, PSE was obligated to ask
17 ColumbiaGrid to conduct regional power flow studies generally and for the Energize
18 Eastside project specifically; instead, PSE chose to conduct inappropriate power flow
19 studies of its own, using many undisclosed and dubious inputs, in order to contort data
20 and assumptions to force what appear to be contrived technical justifications for
21 Energize Eastside. Any properly qualified power generation and transmissions planner
22
23
24

25 involvement in Energize Eastside, although its predecessor projects "Sammamish to Lakeside to Talbot Rebuild
26 Project" and "Lakeside 230 kV Transformer Addition Project" were proposed and studied at ColumbiaGrid as
"south-to-north" grid congestion relief projects for the Northern Intertie.

27 ⁶ ColumbiaGrid reports in 2009-2011 indicate that BPA had a desire (but not a requirement) to increase the Path
28 Rating in the south to north direction to Canada from 2,000 MW to 3,000 MW. Studies were done to see how this
desire could be met. However, at some point in that timeframe, the load flow studies changed to reflect a "Firm
Delivery" requirement to deliver 1,500 MW to Canada. There has been no legitimate demonstration that there is a
requirement for "Firm Transmission" in the amount of 1,500 MW (or any other amount) to Canada.

1 can see the results from these PSE and USE studies are inappropriate and conspicuously
2 contrary to real world experience and common sense.

3 26. Utility Systems Efficiencies, Inc. (“USE”) was hired by the City of Bellevue to provide
4 independent verification of PSE's claimed need for Energize Eastside. Its report
5 concluded that the need for Energize Eastside exists, although that conclusion is not
6 supported by the power flow studies performed by USE; indeed, USE’s studies
7 contradict USE's conclusions.
8

9 27. The USE flow studies show that it is highly probable, approaching a certainty, that if
10 legitimate studies are done properly, it will be shown that there is no need for Energize
11 Eastside. Instead, as discussed in greater detail below, at least four comparatively
12 modest, inexpensive and less environmentally disruptive wired solutions are adequate to
13 solve whatever minor potential overload scenarios remain, to the extent they might
14 exist. There are also non-wired alternatives to Energize Eastside, but the proposed four
15 wired fixes are for now adequate to allow further consideration of other promising
16 alternatives without time pressures or contrived scare tactics.⁷ PSE's own documents
17 reveal they cannot explain where it plans to find power generation resources to meet a
18 major shortfall of possibly as much as 3000 MW (i.e., a firm 1500 MW shortfall in
19 PSE's comparison of peak load to current resources, plus inexplicably but possibly 1500
20
21

22 ⁷ One should not lose sight of the fact that in technical contexts PSE properly focuses the discussion of the need
23 for Energize Eastside in terms of system reliability, i.e. NERC requirements to meet extreme peak loads. I find it
24 rather disturbing, however, when PSE in its PR and ads creates the impression massive blackouts loom if the
25 project is not built, a false assertion that unfortunately was further promoted by Peter Mackin of USE when
26 showing slides to the Bellevue City Council of the 2003 massive blackout in the Northeast. The major blackouts
27 that have occurred in the US in the last 20 years have been traced to inadequate tree trimming. There are
28 reliability criteria that utilities are required to keep their trees trimmed to within a safe distance of a line. But it has
been learned in the case of the 2003 blackouts that some utilities were not complying with tree trimming reliability
criteria. That sort of massive failure threat is not what Energize Eastside is designed to prevent. Inappropriate
generation dispatch patterns overloading transmission lines have not been a major problem due in part to the role
played by the Western Region Reliability Coordinator to watch for and prevent that kind of massive failure before
it can occur. Suggesting that the Energize Eastside line is needed to avoid major blackouts is the sort of scare
tactic that call into question PSE’s and the project’s overall credibility,

1 MW of current resources its modelers choose not to run in simulations) to meet its
2 predicted peak load demands.⁸

3 28. That lack of PSE's generation resources will be compounded when the dirty-coal
4 polluting Colstrip power plant in Montana is shut down by current lawsuits, or by state
5 and federal government environmental enforcement actions.

6
7 29. In addition to the aforementioned four alternatives to Energize Eastside discussed below
8 in Section IV is PSE's oft-stated "first choice" route of the SCL lines on the Eastside,
9 lines which are at one point just one mile west of the proposed Energize Eastside
10 project.⁹ Energize Eastside would duplicate the SCL lines in violation of the "single
11 utility" rule in Order 1000. SCL abets that duplication by having claimed its
12 "preference" to hoard these lines for its own future needs as stated in a letter sent from
13 SCL to the City of Bellevue, Attachment K. But SCL has never publicly and officially
14 denied PSE access to and use of those lines. Nevertheless, SCL has also not done its
15 part to work toward a cooperative "single utility" regional transmission plan run by
16 ColumbiaGrid, of which SCL is a member.

17
18
19 30. ColumbiaGrid for its part has not met its obligations to FERC in developing and
20 enforcing a cooperative regional transmission plan, in violation of FERC Order 1000.

21 III. The "Need" for Energize Eastside is Premised on Flawed Data and Input

22
23
24 ⁸ See, e.g. the page from PSE's 2013 IRP report, Attachment I, with its graph of present and future Resource
Assets.

25 ⁹ See, e.g. "Meeting Conclusions" memorandum of April 23, 2010 meeting between BPA and ColumbiaGrid,
Attachment J. In this document it is clear that **PSE proposed looping the existing SCL lines into its Lakeside
26 station** to serve the high side of a new 230/115 KV transformer at Lakeside. This memorandum also indicates that
27 studies should be done with more western Washington located generation being operated to see if additional
28 generation would relieve indicated problems. **The PSE and USE load studies failed to do cases based upon
these common-sense parameters, and such studies should be done ASAP.** The document also indicates that
studies should be performed to see if new Remedial Action Schemes would help with deliveries of power to
Canada.

1 Parameters.

2 A. The PSE and USE Power Flow Studies Were Improperly Done

- 3 31. My review of PSE’s in-house studies performed to demonstrate the supposed need for
4 the Energize Eastside project indicate that the studies were seriously flawed. I believe
5 that if PSE would have had ColumbiaGrid perform the studies as they were obligated to
6 FERC to do, the flaws I found would have been corrected and there would be better
7 options than the Energize Eastside project to eliminate concerns over possible reliability
8 problems on PSE’s system that PSE currently foresees for 2017/2018.
- 9 32. PSE’s transmission load flow studies include 1500 MW flow to Canada. PSE
10 apparently and incorrectly believes this flow is immutably required to be included in
11 such studies by an unspecified NERC reliability regulation. I can find no NERC
12 reliability criterion that has that requirement, and so far neither has PSE despite my
13 requests for same.
- 14 33. At a public meeting before the Bellevue City Council, the Utility Systems Efficiencies,
15 Inc. (“USE”) consultant Peter Mackin insinuated that if the Energize Eastside line is not
16 built, then the system will be put at risk for extensive blackouts of the type that
17 happened in the Northeast several years ago. For a number of reasons, that is simply
18 not true. For example, the NERC Reliability Coordinator for the Pacific Northwest
19 would monitor and never allow any kind of “firm” flow to subvert a utility’s reliability
20 priorities in extreme load conditions. Also, the Canadians themselves do not insist on a
21 guaranteed constant delivery of their Columbia River power entitlement — indeed, it is
22 common knowledge in the power industry that they do not need the 1500 MW for their
23 own normal or peak load needs and prefer to sell that power to U.S. utilities instead.
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1 34. Further, the ColumbiaGrid area’s transmission grid has for years not been able to
2 provide the agreed Canadian Entitlement 1500 MW of flow to Canada, anyway, let
3 alone being able to do that for any time into the future.¹⁰ If NERC somehow requires
4 guaranteed flow of the 1500 MW to Canada be included in reliability studies and
5 accommodated in practice regardless of extreme peak load emergencies, such a
6 regulation would have by now presented such a major problem that it would have been
7 discovered and resolved long before PSE perceived a problem in meeting Eastside’s
8 future local load demand.
9

10 35. It is completely inappropriate to have PSE retail customers be responsible for the large
11 financial and environmental impacts that would occur if the Energize Eastside project is
12 built, because as a dual-purpose project the costs for it should be allocated according to
13 the percentage benefit bestowed on each party, in this case PSE and BPA. PSE has
14 stated publicly and often that Energize Eastside is just an “Eastside local load project”
15 with only “ancillary benefit to the grid of 3% to 8%.”¹¹ The PSE studies need to
16 remove this 1500 MW flow from the Puget Sound area to Canada, and those studies
17 need to be performed by a disinterested ColumbiaGrid, not PSE, as required in PSE’s
18 Compliance Filing regarding FERC Order 1000.
19
20

21 36. A load flow study performed by USE for the City of Bellevue¹² shows that if this 1500
22 MW flow to Canada is removed from the study, then there is only a single overload of a
23

24
25 ¹⁰ The WECC Guideline: 2014 Base Case Compilation suggested Target for interchange transaction for
26 northbound flows to Canada in winter load flow cases is 1,000 MW unless anticipated operating conditions
become more clearly known. This document is available at
https://www.wecc.biz/Reliability/2014_Base_Case_Compilation_Schedule-R1.pdf

27 ¹¹ PSE testimony before the Bellevue City Council; see YouTube video at
https://www.youtube.com/watch?v=jJae_YkK298

28 ¹² The full report is available at http://www.bellevuewa.gov/pdf/PCD/COB_Independent_Technical_Analysis_1-3.pdf. See also CENSE’s criticisms of that report in a document that I co-authored, at <http://cense.org/CENSE-rejects-USE-report.pdf>.

single 230/115 KV transformer on PSE's system under high winter load periods with outage contingencies. These results are shown in this graph on p. 65 of the report USE submitted, with the specific test parameters and results highlighted :

Table B.2: Winter 2019/20, 100% Conservation - Overloaded Elements

Overloaded Element (Transmission Line or Transformer)	2019/20 Normal Winter 100% Conservation						2019/20 Extreme Winter, 100% Cons.		
	1) Original PSE Case	2) Reduce Eastside load growth to 1.5%	3) Reduce PSE's King County growth to 0.25% ⁵⁰	4) Increase Puget Sound area generation	5) Set Load transfers to Canada = 0 (North, Intertie = 0)	6) Combination of Scenario 4 and 5	E1) Original PSE Case adjusted for extreme weather	E2) Set Load transfers to Canada = 0 (North, Intertie = 0)	E3) Scenario E2 + Increase Puget Sound area generation
Talbot Hill - Lakeside #1 115 kV line	OL	OL	OL	OL			OL		
Talbot Hill - Lakeside #2 115 kV line	OL	OL	OL	OL			OL		
Talbot Hill 230-115 kV transformer #1	OL	OL	OL				OL	OL	OL
Talbot Hill 230-115 kV transformer #2	OL	OL	OL	OL	OL	OL	OL	OL	OL
Talbot Hill-Boeing Renton-Shuffleton 115 kV line	OL	OL	OL				OL		
Sammamish 230/115 kV transformer #1									OL
Sammamish 230/115 kV transformer #2							OL		OL

OL = Overload of Emergency Rating. Source: OTA Results

37. The Energize Eastside project is not needed to fix this one possible transformer overload of unknown magnitude.¹³ As is discussed in detail in Section B below, the PSE and USE load flow studies for some inexplicable reason did not include 1435 MW of 8 PSE controlled western Washington natural gas fired generators, including generators built precisely to respond to heavy peak load events. They were simply turned off. That makes no sense and creates the inappropriate results in the PSE and USE load flow studies.

38. Utilizing those 8 natural gas fired plants in extreme winter peak load simulations plus temporarily curtailing/dropping the Canadian 1500 MW flow would very likely further reduce or completely eliminate the overload on this transformer. Proper optimal flow

¹³ A fully transparent study, as required by FERC Order 1000, would also disclose the magnitude of the overload so we would know how serious that would be.

1 tests conducted by ColumbiaGrid would conclusively give us the definitive answer.

2 B. PSE's Studies Inexplicably and Inappropriately Did Not Run Most of PSE's Western
3 Washington Generating Plants.

4 39. It is widely understood that locating generation closer to load will reduce the need for
5 transmission lines. For many years PSE generation supplies were primarily those
6 located at five dams on the Columbia River in the Wenatchee area. Further, PSE owns
7 a large share of large coal plants located in Montana. There is considerable
8 transmission needed to move this remotely located power supply to PSE's service
9 territory in Western Washington.

10 40. However, starting in the late 1980s and through the 1990s and beyond, PSE has built
11 and/or acquired considerable natural gas-fired resources in its service territory in
12 Western Washington.

13 41. But in running its transmission studies that purport to demonstrate the need for the
14 Energize Eastside line, PSE's transmission studies assumed that 6 natural gas-fired
15 generators totaling about 1357 MW of PSE-controlled natural gas-fired generation
16 would not be running. As previously noted, this makes no sense. When ColumbiaGrid
17 did their 2012 System Assessment of winter conditions these 6 natural gas fired
18 generators were shown to be generating 1302 MW. Attachment L. That is 1302 MW
19 more than the amounts used by PSE/Quanta and USE in their load flow studies. See the
20 comparison chart in Attachment M between how those entities modeled the MW output
21 of these available generators vs. how ColumbiaGrid modeled the MW from them as
22 documented in Attachment L. There is no acceptable excuse for PSE /Quanta's and
23 USE's methodology.
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1 42. Further, the PSE and USE studies assumed that 2 additional PSE-controlled natural gas-
2 fired generators would be running at 77 MW below their full-out capability. When
3 ColumbiaGrid did their 2012 System Assessment of winter conditions, Attachment L,
4 these 6 natural gas fired generators were shown to be generating 64 MW more than the
5 amounts used by PSE and USE.

6
7 43. *The purpose for PSE acquiring all of this natural gas-fired generation was to be able to*
8 *demonstrate that PSE could reliably meet its load obligations in extreme cold winter*
9 *load events.* Without these generators running, it is unclear where PSE would be
10 getting the power to meet its winter peak load in these studies. Further, it is
11 irresponsible for PSE's transmission modelers to not ascertain whether overloads would
12 be reduced or eliminated if these resources were turned on for the simulations. This is
13 not an appropriate way to do a legitimate study.

14
15 44. USE ran a load flow study commissioned by the City of Bellevue with more, but not
16 nearly all, of the PSE natural gas-fired generators running and was able to show reduced
17 overloading on lines. See the chart in Paragraph 36 above. But no one has run an
18 Optimal Power Flow model¹⁴ for Energize Eastside to find the right amount of this
19 natural gas-fired generation to turn on to minimize line overloads. And no one has
20 tested turning on all these resources. This is a serious and inexplicable flaw in PSE's
21 studies that needs to be fixed. I believe that if ColumbiaGrid did these studies, this flaw
22 would be fixed.
23
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25
26
27 ¹⁴ An Optimal Power Flow (OPF) model is one that seeks to find the best generation dispatch pattern to
28 economically meet the demand for power while minimizing and/or eliminating overloads on the transmission
infrastructure. This is a more elaborate model than the simple Power Flow (PF) model. In the PF model, the
modeler needs to specify the generators that should be running to meet the load and an artificial "slack bus"
generator makes up for any resulting mismatch between generation and load.

1 C. PSE's Studies Did Not Look at Obvious Alternatives to The Energize Eastside
2 Project.

- 3 45. If future-looking study of the transmission grid indicates there may be a reliability
4 problem in the near future if something is not done to the system, then a number of
5 hitherto overlooked options for eliminating this forecast reliability problem need to be
6 studied.
- 7
- 8 46. I have already been able to identify four promising alternatives to the Energize Eastside
9 project that may quite likely be preferred alternatives for dealing with the forecast
10 reliability problem. PSE has not provided any demonstration that they have performed
11 studies of any of these four options.
- 12
- 13 47. These four options all require an initial brainstorming of any possible required
14 ColumbiaGrid to Canada flows, of whatever nature or kind. Unless someone can
15 provide a legitimate reason that the studies should require flows to Canada (I know of
16 no such reason), the studies should assume zero flow to Canada.¹⁵ Once it is
17 determined what PSE's obligations are with respect to those inter-regional flows, if
18 indeed there are any, then the study options should simulate the following four
19 scenarios, each scenario to be run independently from the others:
- 20
- 21 a. Turn on the west side generators and fix any 115 KV lines or transformers that still
22 seem to be having problems.
- 23 b. Turn on the west side generation and add a third 230/115 KV substation at Talbot
24 Hill. Fix any remaining 115 KV lines that may still need to be fixed.
- 25

26 _____
27 ¹⁵ BPA and BC Hydro have known for years that they cannot provide "Firm" 1,500 MW of transfer to Canada. So
28 BPA and BC Hydro have agreed to install Remedial Action Schemes (aka RAS) and have instituted an "automated
transmission curtailment procedure" to allow higher levels of transfer to Canada with the understanding that these
mechanisms can be called upon if necessary. As such, the transfers to Canada could be considered "Quasi-
Firm" or "Conditional Firm" Transmission Service. The load flow studies did not acknowledge these mechanisms.

1 c. Turn on the west side generators and build a new 230/115 transformer at Lakeside.
2 Feed the high side of the 230/115 KV transformer by looping the existing Seattle City
3 Lines to that transformer.¹⁶

4 d. Turn on the west side generators and build the Lake Tradition alternative that Puget
5 has planned to build several years ago to meet growing City of Bellevue loads.¹⁷ Fix
6 any possible remaining 115 KV line overloads that may be shown to occur.
7

8 48. While I believe it is highly probable that any one of these alternatives could be made to
9 meet the 2017/2018 reliability requirements on PSE's system at a lower cost and lower
10 environmental impact than the Energize Eastside project, I understand that it would be
11 better to do a proper set of flow studies and be reliably informed, and indeed really for
12 the first time. ColumbiaGrid should study these alternatives to the Energize Eastside
13 plan for reasons already stated above.
14

15 III. PSE REJECTED COMPLAINANTS' INVITATION TO COMPLY WITH FERC
16 ORDER 1000 IN A JOINT, COOPERATIVE EFFORT

17 A. PSE Refuses to Engage in Regional Transmission Planning

18 49. Regional Transmission Planning as required by FERC Order 1000 would allow entities
19 impacted by any proposed transmission project to participate in the process. Studying
20 the system as if a single utility owned all relevant generating, transmission, and
21 distribution facilities would enhance efficiency and reduce duplication of facilities,
22
23
24

25 16 It should be noted that PSE from the outset when announcing Energize Eastside repeatedly stated that tying into
26 the SCL's Eastside lines was always "its first choice for a route for Energize Eastside," but SCL allegedly refused
27 PSE's offer to use those SCL lines, stating it "preferred" to retain its Eastside corridor for various self-serving
28 reasons, including "possible future use," contrary to the "single utility" planning principles of ColumbiaGrid and
FERC as expressed in its Orders 890 and 1000. See Attachment K, letter from SCL to the City of Bellevue. Note
that SCL has never publicly refused to share its Eastside lines with PSE.

¹⁷ Indeed, this and other alternatives were under active consideration as recently as 2009. See Attachment N, page
17 of PSE's PowerPoint presentation, "King County 230/115 kV Transformation," September 23, 2009.

1 environmental impacts, and costs. FERC Order 1000 expressly requires such a single
2 entity methodology.

3 50. ColumbiaGrid, BPA and SCL have chosen not to engage in this single utility process.

4 In a letter from Complainants to BPA, SCL and ColumbiaGrid dated May 15, 2015,
5 Attachment F, BPA, SCL and ColumbiaGrid were specifically asked by Complainants
6 to have ColumbiaGrid perform specific studies of alternatives to the Energize Eastside
7 line. BPA did not respond to Complainants as requested, and ColumbiaGrid replied
8 on June 5, 2015, on the eve of Complainants' filing of their complaint and this affidavit.
9 ColumbiaGrid's letter is Attachment BB. It may not be surprising that BPA did not
10 respond since (according to FERC's May 14, 2015 Order on May 14, 2015 in Docket
11 Nos. ER15-422 and ER15-429, 151 FERC ¶ 61,127) BPA did not even respond to a
12 FERC Order to make a revised FERC 1000 Compliance filing. SCL also responded to
13 the letter. Attachment O. In their response SCL asserted it is a non-jurisdictional utility
14 with respect to the Federal Energy Regulatory Commission (FERC). However, in their
15 letter SCL acknowledges that it is a member of ColumbiaGrid and, through it, SCL
16 participates in regional transmission planning in an effort to improve reliability and
17 efficient use of the Transmission Grid. SCL did not directly respond to Complainants'
18 request that they cause ColumbiaGrid to perform the transmission studies Complainants
19 are asking to have done. In its letter SCL does not acknowledge that it faces serious
20 reciprocity repercussions if it does not agree to follow FERC public policy initiatives.¹⁸

21 It is my understanding that reciprocity is an important matter for SCL's finances.¹⁹

22
23
24
25
26
27 ¹⁸ This is a key issue currently under discussion in FERC Docket Nos. ER15-422 and ER15-429; see, e.g. the
28 FERC May 14, 2015, Order at 151 FERC ¶ 61,127, whether "non-jurisdictional" government-owned utilities are
exempt from Order 1000 compliance or are nonetheless required to comply with Order 1000 policies in
accordance with agreed reciprocity provisions. I subscribe to this latter point of view and believe Order 1000

1 51. ColumbiaGrid’s letter, Attachment BB, rejects Complainants’ request to do the load
2 flow studies requested in Attachment F. Instead, ColumbiaGrid claims that it has done
3 the needed studies. But it has not performed the studies we have requested be done.
4 Those studies need to be done by ColumbiaGrid if ColumbiaGrid is to perform its
5 proper role as a FERC-authorized Regional Entity. ColumbiaGrid describes some of its
6 missions, but fails to acknowledge in its letter that it has a key role in Planning and
7 Expansion. As stated on the ColumbiaGrid website: “*ColumbiaGrid provides single-*
8 *utility based transmission planning for the combined network of its participating*
9 *utilities. The goal of the program is to solve transmission issues regarding what should*
10 *be built, who should build it, and who should pay for it.”* <https://www.columbiagrid.org>.
11 I find it particularly problematic that ColumbiaGrid would not respond positively to our
12 request to study alternatives to the Energize Eastside line. It may well be because
13 ColumbiaGrid is not truly an independent organization.

14 52. While ColumbiaGrid may claim to have an independent Board, the fact is that its Board
15 is elected by its members. If a Board member likes his job, then it can be expected that
16 the Board member will be attentive to the desires of those who elect him or her. It is
17 clear that the ColumbiaGrid voting members are resisting ColumbiaGrid acting as a
18 Regional Entity even though ColumbiaGrid members have told FERC that
19 ColumbiaGrid will be the Regional Entity that allows them to comply with FERC Order
20 890 (and some believe, as I do, it is the Regional Entity that allows them to comply with
21 FERC Order 1000 as well).

22 compliance is unworkable and illusory if government-owned utilities can simply opt out on formalistic legal
23 arguments while still reaping system benefits from reciprocity.

24 ¹⁹ Reciprocity means SCL grants open access to its transmission system under FERC approval of its reciprocity
25 arrangements, which entitles SCL to receive open access transmission service from other transmission providers.

1 53. FERC is keenly aware of these issues surrounding the independence of Boards. For
2 example, in the year 2005 FERC issued two orders on July 1, 2005 (Docket Nos. ER04-
3 445 and EL05-114) relating to the independence and methods of appointing the Board
4 of the California ISO. FERC Order EL05-114 set up a several-step process for
5 selecting CAISO Board members that involved a search firm identifying qualified
6 candidates, a large group of stakeholders to rank the candidates identified by the search
7 firm, and finally the Governor of the State of California was to choose from either the
8 ranked candidates provided to him or others of his own choosing. ColumbiaGrid should
9 be required to insert similar methods in the selection process for its Board so that it
10 exercises the supervision and control of regional projects so seriously lacking in the
11 case of Energize Eastside. The current method that ColumbiaGrid uses to select its
12 Board members does not appear to meet the independence requirements in Order 2000.

13
14
15 54. PSE has chosen not to engage in the Order 1000 single utility process. In a letter from
16 Complainants to PSE dated May 8, 2015, Attachment E, PSE was specifically asked by
17 Complainants to perform its studies in this single utility manner as PSE promised FERC
18 they would and is obligated to do under FERC Order 1000. PSE has refused to do so;
19 see its letter in reply dated May 22, 2015, Attachment P.

20
21 55. PSE's May 22, 2015 letter is a clear example of the necessity for FERC Order 1000.
22 That letter demonstrates PSE's failure to acknowledge that an 18-mile double-circuit
23 230 KV line is interconnected to the grid on both ends. It is in fact a part of the Bulk
24 Electric System (BES) as defined by FERC in Docket Nos. RM12 -6-000 and RM12-7-
25 000, Order No. 773. That Order established a bright-line threshold so that any facility
26 above 100 KV is defined to be part of the Bulk Electric System.
27
28

1 56. PSE calls its Energize Eastside project a “local load-serving project,” but clearly it is a
2 part of the Bulk Electric System as defined by FERC.²⁰ Further, it is clear that
3 ColumbiaGrid recognized that the PSE-sponsored Energize Eastside project served the
4 dual purpose of meeting local load and solving the greater Puget Sound Area
5 problems.²¹ In its attempts to justify its need for the Energize Eastside Project, PSE has
6 inappropriately run its own studies in-house and not by a Regional Entity operating
7 under the requirements of FERC Order 1000. Further, the studies have not been
8 performed in a transparent fashion as required by FERC Order 1000.

9
10 57. PSE’s May 22, 2015 letter rejected Complainants’ request that ColumbiaGrid analyze
11 specific alternatives to the Energize Eastside project. PSE’s and ColumbiaGrid’s failure
12 to conduct the analyses and studies for the potential need and utility of Energize
13 Eastside violated FERC Order 890, issued in February of 2007. Order 890, incorporated
14 in toto in Order 1000, sets clear guidelines as to how FERC requires certain processes
15 to be done. For example, as to regional transmission planning, only Regional Entities
16 such as ColumbiaGrid have the right and responsibility to work through a defined
17 process (including conducting such things as load flow studies) that follows a regional
18 agenda that should be set exclusively by ColumbiaGrid for determining what reliability
19 issues need to be addressed. Interested parties such as PSE and SCL and others are
20 supposed to be informed of the identified reliability issues and given an opportunity to
21 propose fixes to those problems.
22
23
24

25 ²⁰ The Energize Eastside does not fall under Bulk Electric System Exclusion E3 for several reasons including the
26 fact that the studies done to justify Energize Eastside were designed so that Energize Eastside would increase the
27 ability to provide an alleged Firm Transmission Service to Canada to 1,500 MW.

28 ²¹ See Attachment Q, a June 12, 2014 email from Marv Landauer, ColumbiaGrid Principal Planning Engineer to
Hal Mozer, in which Mr. Landauer points out that the PSE Proposed project was chosen over the Seattle City Light
project because the SCL project did not meet PSE local load needs while the PSE proposed Energize Eastside line
met both the local need and the greater Puget Sound Area need. .

1 58. This regional entity-directed process is undermined if, as in the case of Energize
2 Eastside, a single member utility decides to promote its own project in the region and
3 lobbies for its acceptance by ColumbiaGrid, ignoring Order 1000's single utility rule.
4 PSE did just that with Energize Eastside. In 2011, ColumbiaGrid, violating Orders 890
5 and 1000, allowed PSE to go forward with its "Sammamish-Lakeside-Talbot" project –
6 later renamed in 2013 "Energize Eastside" – even though in its "Updated
7 Recommended Transmission Expansion Plan for the Puget Sound Area to Support
8 Winter South-to-North Transfers" report, Attachment R, it identified a cheaper and
9 more productive candidate in a better project that would have entailed upgrading SCL's
10 lines on the Eastside.. The Order 890 process here was insufficiently transparent and
11 was guided by the parochial interests of PSE on an impermissible "first come, first
12 served" basis.

13
14
15 59. Further, PSE's and ColumbiaGrid's acts violated commitments they made to FERC to
16 comply with Order 890. In a series of filings with FERC, PSE, SCL and BPA, along
17 with other ColumbiaGrid participants, committed themselves in Compliance Filings that
18 ColumbiaGrid would be the Regional Entity to initiate and manage the regional
19 planning processes, and they pledged to act in compliance with that regimen. They
20 completely failed to do so with regard to PSE's Energize Eastside project.

21
22 60. PSE claims that its consultants, Quanta, and Utility System Efficiencies, Inc. (USE), an
23 independent consultant hired by the City of Bellevue, have conducted multiple studies
24 on the need for the Energize Eastside project. Yet the important studies that
25 Complainants have asked PSE to request ColumbiaGrid to conduct have yet to be run
26 by anybody. Nor have PSE and USE run their studies in a transparent fashion – data
27 normally available from such studies have not been published or produced when
28

1 requested. Further, the studies have not been done pursuant to the single-utility
2 principle as required by FERC Order 1000.

- 3 61. In its May 22, 2015 letter, Attachment P, PSE indicates that USE concluded the
4 Energize Eastside project is necessary, but those studies also indicate that if there is no
5 requirement to deliver 1500 MW to Canada on a firm basis, the only overload is a
6 relatively minor and manageable overload of a 230/115 KV transformer at Talbot Hill.
7 See highlighted fifth case in the graphic included in Paragraph 36 above.
8
- 9 62. It does not take an 18-mile double-circuit 230 KV line to remedy an overload on a
10 230/115 KV transformer. And there is no evidence known to me that there is a Firm
11 Transmission requirement to deliver 1,500 MW to Canada, in any event. In fact, the
12 evidence is to the contrary. It has been known for over 15 years that the BES is not
13 capable of delivering 1500 MW of power to Canada on a Firm basis. If that had been a
14 requirement, then the facilities needed to accomplish that would have been identified
15 and put in place by the responsible parties many years before the expected 2018
16 operation date of the Energize Eastside project.
17
- 18 63. Since the Energize Eastside project is intended to meet both local load and a perceived
19 need to provide 1500 MW of Firm Transfers (or to increase the Path Rating from 2,000
20 MW to 3,000 MW) to Canada, then the project is by definition not a local load-serving
21 project.
22
- 23 64. PSE's May 22, 2015 letter, Attachment P, also states that ColumbiaGrid completed
24 necessary studies and determined that the Energize Eastside project "will fit into the
25 regional grid." However, as the Regional Entity identified as the entity that will bring
26 PSE into compliance with FERC Order 1000, ColumbiaGrid needs to do much more
27 than conclude that the Energize Eastside project will "fit into the regional grid." Per
28

1 FERC Order 1000, ColumbiaGrid needs first to do studies of future years (e.g. 2018)
2 with the BES as it exists today. Then ColumbiaGrid must determine whether from
3 those studies there may be a reliability problem within the regional perspective.

4
5 65. No one at ColumbiaGrid or elsewhere has done such a proper study. Any such proper
6 study would run as many existing PSE generators as are available if they can be
7 engaged to help solve overloads. Neither PSE nor USE has done a study where all of
8 PSE's generators are running.²² This is especially problematic given that PSE is 1,500
9 MW short of having enough generating supply to demonstrate it is "Resource
10 Adequate" in the year 2018 even with all of PSE's generation running. See, e.g., page
11 1-5 of PSE's 2013 IRP, Attachment I. To shut down 1,400 MW of existing resource
12 when PSE is already 1,500 MW short of enough power to meet its peak load needs
13 renders the PSE and USE studies ridiculous.

14
15 66. In a proper FERC Order 1000 process, after running an initial study for a project like
16 Energize Eastside, it is *ColumbiaGrid's* responsibility to identify a possible reliability
17 issue. If it concludes there is such an issue, then interested parties should be informed
18 and they should have an opportunity to propose alternatives and have studies performed
19 on those proposed alternatives in a transparent process. This has not been done.

20
21 67. If, as a result of such studies, the grid needs to be enhanced with facilities that address
22 both local and regional needs (as clearly Energize Eastside is intended to do when it is
23 designed to increase the Firm Transmission capacity to Canada to 1500 MW or
24 accommodate an increase of Path Rating from 2000 MW to 3000 MW), then

25
26 ²² This includes 8 western Washington generators that were specifically built to handle peak loads. If they are then
27 not included in simulations of extreme peak load scenarios, then why were these generators built? Their failure to
28 be turned on in PSE and USE studies is problematic. Equally strange is USE's turning on only some of these
generators, rated for a total of approximately 500 MW, but not all of the approximately 1,400 MW that was
available. No responsible modeler would simply accept bizarre results from these studies, let alone present them to
decision makers as legitimate.

1 ColumbiaGrid also needs to perform an analysis of the proper cost allocations of the
2 project. In addition, it further needs to put the project out for RFPs and bids from any
3 qualified party to build and own the project. ColumbiaGrid has not done any of these
4 things. All of the foregoing omissions by ColumbiaGrid and PSE are violations of
5 FERC Order 1000.
6

7 68. In its FERC Order 1000 Compliance filing dated October 11, 2012, Attachment B, PSE
8 told FERC that ColumbiaGrid is to conduct such activities consistent with the PEFA
9 and is to endeavor to:

10 (i) facilitate analysis of Proposed Projects as if a single utility owned
11 all relevant generating, transmission, and distribution facilities to enhance
12 efficiency and reduce duplication of facilities, environmental impacts, and cost.

13 However, it is apparent from their filings in FERC Docket Nos. ER15-429 and ER15-
14 422 that PSE, BPA, SCL and others in the Northwest are attempting to evade
15 compliance with FERC Order 1000 and in various ways consider themselves exempt.

16 For example, BPA has stated that they would prefer to give up reciprocity in order to
17 avoid having to comply with FERC Order 1000. See "Clarifying BPA Obligations,
18 Strategic Intent Paper, 1-29-2015," available online at

19
20 www.bpa.gov/news/AboutUs/Documents/20150129-Strategic-Intent-Paper.pdf.²³ BPA,

21 SCL and other utilities prefer to operate as utilities performing studies in their back
22 rooms and building whatever they want. See Attachment D. FERC Order 1000 is
23 designed to stop that sort of behavior in order to enhance efficiency and reduce
24 duplication of facilities, harmful environmental impacts, and unnecessary costs.
25

26 ²³ An excerpt from p. 5 of that document: "Ultimately, if BPA determines that it cannot honor its statutory and
27 contractual responsibilities through *pro forma* language adopted in its existing OATT, BPA will consider revising
28 its OATT and moving away from *pro forma* in those areas, as needed. In that event, BPA may not continue to
pursue reciprocity and will not file its tariff at FERC for approval. Regardless of BPA's reciprocity status, BPA
will continue to engage in regional and national energy policies related to issues important to the agency and its
stakeholders."

1 69. By refusing to study available and likely better alternatives via an independent and
2 transparent process as required by FERC Order 1000, PSE plans to move forward
3 unilaterally with the Energize Eastside project, a project that will not enhance efficiency
4 and reduce duplication of facilities, harmful environmental impacts, and unnecessary
5 costs.²⁴ Even more disturbing is the fact that PSE would unfairly place the burden of
6 the inappropriate duplication of facilities and the large environmental impacts and
7 unnecessary costs on its own customers.
8

9 70. In other areas of the country utilities have formed Independent System Operators (ISOs)
10 or Regional Transmission Operators (RTOs). An ISO and a RTO are similar. The
11 delineation between an ISO and an RTO is subtle.
12

13 67. ColumbiaGrid, a nonprofit corporation, is not a regional transmission organization
14 (RTO) and has no plans to become one, but instead seeks to achieve many of the
15 benefits of an RTO through incremental additions to its functions. As a membership
16 private corporation, its activities are not subject to federal FOIA or state public records
17 requests laws, so much of what it does is not transparent to the public.
18

19 68. ColumbiaGrid was formed after some of its members chose not to continue in efforts to
20 form Grid West, a Northwest evolutionary structure with the ability to add functions
21 and to move toward independent grid management.
22

23 69. It is my understanding that FERC allowed its jurisdictional utilities in the Northwest to
24 avoid forming an ISO or RTO as the usual vehicles for complying with FERC Order
25 1000 because of these utilities' promises to FERC regarding their newly formed
26 ColumbiaGrid organization and its associated ColumbiaGrid Planning and Expansion

27 ²⁴Note p, 2, paragraph (c) of Attachment C: "ColumbiaGrid itself does not try to take environmental impacts into
28 account in their Plan. In their opinion, that should be happening in SEPA or NEPA processes." Yet FERC Order
1000 requires ColumbiaGrid's own independent assessment of environmental impacts when choosing which
projects within its region appear desirable.

1 Functional Agreement (“PEFA”). This special and unique arrangement for
2 ColumbiaGrid and its members does not excuse noncompliance with FERC Orders
3 1000 by its members, including PSE, BPA and SCL.

4
5 70. ColumbiaGrid performed some load flow studies in the years 2010/11 to see how the
6 “Path Rating”²⁵ to Canada could be increased from 2,000 MW to 3,000 MW. BPA had
7 requested such a study be done because they wanted to get this Path Rating increase,
8 and not because of any firm requirement. ColumbiaGrid initially concluded at the time
9 that enhancements to an existing SCL line would be the best solution.²⁶ PSE came to
10 that study group and said they needed a new 230/115 KV transformer at Lakeside, and
11 that the transformer would need to be connected to a 230 KV transmission line.²⁷

12
13 71. So ColumbiaGrid studied not only enhancing the existing SCL line on the Eastside, but
14 also looping that line into the PSE Lakeside substation. But then PSE came to the
15 ColumbiaGrid study group and said their plans were firm on building the Energize
16 Eastside line,²⁸ so there was no need to enhance the existing SCL line and loop it into
17 Lakeside. ColumbiaGrid acknowledged that PSE’s Energize Eastside line would not
18 only meet PSEs need to serve growing load in the City of Bellevue, but would also
19 allow the Path Rating to Canada be increased from 2,000 MW to 3,000 MW as BPA
20

21 ²⁵ The term “Path Rating” is used in WECC in the same way that FERC uses the term “System Operating Limit”
22 or “SOL.”

23 ²⁶ See Attachment S, which contains excerpts from Attachment R, “ColumbiaGrid 2011 Updated Recommended
24 Transmission Expansion Plan for the Puget Sound Area to Support Winter South-to-North Transfers,” and it also
25 includes this conclusion: “I conclude from the above that there was an awareness by ColumbiaGrid and its
26 members that some combination of fixes combining pieces of SCL’s and PSE’s Eastside lines could have led to an
27 optimized solution, but instead of ColumbiaGrid following through by enforcing the FERC single utility rule,
28 possible optimal options were left hanging in the air. Without further involvement by ColumbiaGrid to help
identify a preferred solution rather than just accepting the fact that PSE had decided on its own to build Energize
Eastside, PSE was wrongfully given carte blanche to build the Energize Eastside line any way it wanted to.”

27 ²⁷ Id.

28 ²⁸ Known to ColumbiaGrid then (and now) under a different name, “Sammamish-Lakeside-Talbot” and offered
at that time as a regional grid congestion solution. PSE changed the “Sammamish-Lakeside-Talbot” name to
“Energize Eastside” when making a public launch in December 2013, and now “Energize Eastside” is touted as
“primarily a local Eastside load” solution with “only 3% to 8% benefit” to the regional grid. See PSE testimony
before the Bellevue City Council at https://www.youtube.com/watch?v=jJae_YkK298

1 wished it would be. ColumbiaGrid has not been asked by PSE to do any studies on this
2 matter since the 2011 ColumbiaGrid Plan, as evidenced by the Transmission Plans
3 published by ColumbiaGrid since that time.

4 72. After the completion of the ColumbiaGrid studies in 2011, BPA, PSE and SCL
5 negotiated and signed a Memorandum of Agreement in 2012 relating to preferred Puget
6 Sound area plan of service projects. Attachment T. See various drafts created since that
7 agreement seeking ways to modify and “clarify” it, though apparently never signed.
8 Attachments U through X. In this agreement there is a statement that earlier in 2011 the
9 parties had agreed on a Temporary Operational Support Program for relieving forecast
10 transmission congestion. The Agreement went on to describe the agreed-upon plan and
11 what each party would contribute to it. BPA was to build some facilities and pay some
12 money. PSE was to build what is now called the Energize Eastside project. The
13 estimated cost of the Energize Eastside project was \$70 million, including the cost of
14 the line and a 230/115 KV transformer at Lakeside.²⁹

15
16
17 73. By the year 2015, the estimated cost of the Energize Eastside project had jumped to
18 \$200 million, apparently because PSE had come to the understanding that the 115 KV
19 lines could not be removed for conversion to 230 KV until the 230KV was already in
20 place and operating. That required a complete redesign of the Energize Eastside project
21 and a very large increase in cost.³⁰

22
23
24
25 ²⁹ The drafts contemplating amending the 2012 MOA, Attachment T, going all the way into 2015 show an
26 evolution of BPA’s and SCL’s financial participation in Energize Eastside, until they decide to avoid direct
27 participation in the project, apparently since, as implied in the agreement, the parties wanted to avoid NEPA
28 involvement.

³⁰ Latest cost estimates vary from \$176 million to \$154 million, according to
http://www.energizeeastside.com/Media/Default/CAG/Meeting4a/7_CAG_UpdatedDataTable_2014_0625.pdf.
However, these estimates were made before PSE discovered they needed to install double poles along some parts
of the route due to the location of the Olympic Pipeline within the right of way, so these estimates may be low.

1 74. By 2015 the 2012 Memorandum of Agreement, Attachment T, was no longer
2 representing the true cost of the EE project. That cost had increased substantially and
3 BPA, who is the main beneficiary of the EE line because of the increase in ability to
4 move power to Canada over the BPA 500 KV lines to Canada, is no longer paying an
5 appropriate share of the cost of the EE line. Given the benefits to BPA of the EE line
6 and the fact that BPA is enabling the construction of that line by paying some (but not
7 nearly enough) of the cost of the EE line, NEPA review is required for this project.³¹

9 75. The parties chose the PSE Energize Eastside project without giving any consideration to
10 its environmental impacts or considering the environmental impacts of alternatives. It
11 was simply noted that PSE's project was, at the time, expected to be lower cost than
12 BPA's project. However, since that time the cost of PSE's Energize Eastside project
13 has escalated dramatically. No effort has been made to revisit the choice to take into
14 account environmental impact differences and revised economics.

16 76. Meanwhile, there is not now nor any time soon a risk of blackout in the Northwest with
17 anything like the scale of the 2003 blackout in the Northeast (caused by cascading
18 failures due to utilities' failure to trim or cut down trees), because of the operations of
19 the Pacific Northwest Security Coordinator. Further, Canada has not made any formal
20 claim that they have a Firm Transmission Right that is not being delivered upon. PSE
21

23 ³¹ BPA in handwritten meeting notes produced in a FOIA request appears to agree. Attachment Y. These notes
24 make several references to NEPA being required for EE, including these (page references are to the Attachment
25 pdf): P. 1: "*NEPA - proposed to Puget that all Nepa be associated with Lakeside Transformer"; "ask who have
26 Mike & Angela been talking to at Puget about NEPA? Where did they leave it? [red ink] didn't discuss with Puget
27 staff". P. 2: "Jana will check on NEPA funding for SCL & Puget projects".

28 P. 6:
"John Phillips -
Eastside 230 project - 2018
Permitting folks hot to go to identify
substations & start NEPA process
LeAnn talked to permitting person Friday"

1 has grossly exaggerated the reliability threat it has claimed in order to justify building
2 Energize Eastside. Other cheaper, more efficient and less environmentally destructive
3 alternatives to Energize Eastside exist that would meet the much smaller local future
4 reliability concerns of the Eastside, and they are discussed later in this affidavit in
5 Section IV.
6

7 **B. Flows to Canada**

8 77. Flows to Canada often are discussed in the context of the Columbia River Treaty. The
9 Columbia River Treaty is a 1964 agreement between Canada and the United States on
10 the development and operation of dams in the upper Columbia River basin for power
11 and flood control benefits to both countries. Four dams were constructed under this
12 treaty: three in Canada (Duncan Dam, Mica Dam, Keenleyside Dam) and one in the
13 United States (Libby Dam).
14

15 78. The treaty provided for the sharing with Canada of one-half of the downstream U.S.
16 power benefits. In other words, before the construction of the large water storage dams
17 on the Columbia River in Canada, there would be many times during the year when
18 uncontrolled flows on the Columbia River were simply not useable at US power plants
19 located in the US portion of the Columbia River.
20

21 79. With more power usable in the US, the agreement was that half of the additional energy
22 and capacity that would be generated at the US dams would be given to Canada. The
23 treaty negotiators recognized that there needed to be transmission to deliver that power
24 to Canada, so the treaty provided that the power would be delivered to a point near
25 Oliver, British Columbia. Oliver is a town on the US/Canadian border in Southeast
26 British Columbia, north of Grand Coulee.
27
28

- 1 80. The treaty envisioned that the BPA would build a new transmission line north in
2 Eastern Washington to Oliver. BC Hydro (BCH) would build a new transmission line
3 from its system in British Columbia to meet the new Bonneville Power line. By
4 agreement of everyone, Canada did not need nor want their share of the Treaty Power.
5 So all parties agreed that for the first 30 years of the treaty all of Canada's share would
6 be sold to California entities. This in fact became the economic justification for
7 building the first major tie lines between the Northwest and California.
8
- 9 81. With the line to Oliver that the treaty contemplated, there would have been no impact
10 on transmission line loading in Western Washington, and PSE customers would not
11 have had any financial and environmental impacts from the delivery.
12
- 13 82. In 1998, BPA and BCH decided neither one of them wanted to pay for the new line
14 specified in the treaty. So in 1998 the US and Canada agreed on new treaty terms that
15 allowed BC Hydro to market its share of treaty energy in the United States if it chose
16 rather than having to accept delivery in Canada. This allowed BCH and BPA to avoid
17 building the lines to Oliver.
18
- 19 83. BPA and BCH were well aware at the time that by choosing not to build the line to
20 Oliver that there would be times when the power could not be delivered to BCH even if
21 BCH wanted it. BPA therefore put in place an operating procedure to curtail flows to
22 Canada anytime such flows might cause overloads on transmission lines in western
23 Washington. In the year 2007 BPA put in place an automatic curtailment scheme to
24 accomplish this same purpose.
25
- 26 84. Often BCH did not want delivery of the power to Canada. It is widely known in the
27 power industry that instead of using this power to meet BCH load, BCH finds it more
28 lucrative to sell the power to entities in the United States. So, as is commonly known in

1 the industry, they ask BPA to deliver the power to a point where a US purchaser of the
2 power could take delivery.

3 85. BCH does not count on their share of Canadian Entitlement power to meet their peak
4 load needs. See BCHydro 2013 IRP, the relevant excerpt of which is Attachment Z.
5 Over the course of the 60-year life of the treaty, if BPA and BCH had ever considered it
6 a priority that Canada's share of the Canadian Treaty power be delivered to Canada at
7 all times, even during winter extreme peak load events, the BPA and BCH would long
8 ago have built whatever transmission that would have been necessary to accomplish
9 that. They could, for example, have built the lines called for in the treaty itself.³²
10

11 86. In any event, PSE and its customers should not be responsible for the financial and
12 environmental burdens of building new transmission capacity for that purpose. The
13 ColumbiaGrid studies of PSE's needs should be done with no flow between Canada and
14 the US. This would also be consistent with PSE's many protestations that Energize
15 Eastside is supposedly just a local Eastside load project, anyway.
16

17 87. That actual amount of the Canadian Treaty Capacity is, by the way, currently about
18 1300 MW of capacity, not the 1500 MW that PSE and USE used in their load flow
19 studies. It is reasonable to assume and can be expected that if BCH and BPA are
20 required to pay for new transmission to accommodate 1500 MW that BCH and BPA
21 will instead decide to simply continue to deliver Canada's share of the Canadian
22 Entitlement to a US entity during these peak load events. BCH will get a very good
23 price for any power it sells to a US entity during these peak load events. Indeed, since
24 PSE is clearly hugely short on power to cover its system peak load in these conditions
25 (see discussion below), PSE is the likely purchaser of BCHydro's share of Treaty power
26
27
28

32 The full text of the treaty can be found at <http://www.ccrh.org/comm/river/docs/cotreaty.htm>.

1 under these conditions.

2 C. PSE Does Not Have Adequate Power Generation Resources to Meet Future Load

3 88. PSE is required to demonstrate in its Integrated Resource Plans (IRP) filed with the
4 Washington Utilities and Transportation Commission (“WUTC”) that it has adequate
5 resources to cover its current and future peak load events. PSE needs to assure WUTC
6 that it has sufficient transmission infrastructure to transport PSE generation to meet
7 loads without violating FERC/NERC reliability requirements.

8 89. In the last 30 years PSE moved from a mostly hydro-based utility (with much of its
9 hydro on the Columbia River near Wenatchee) to a combination coal/hydro based utility
10 (with most of its coal located in Montana), thence to a combination hydro/coal/natural
11 gas-based utility. In that mix PSE has added considerable renewable power through its
12 wind plants.

13 90. PSE’s 2013 Integrated Resource Plan at Figure 1-1, Attachment I, shows PSE needs
14 more than the capacity it currently has in order to demonstrate resource adequacy. It
15 shows a need for an additional 1500 MW of new capacity by the year 2018 in order to
16 cover its estimated 6000 MW peak load and provide an appropriate level of reserves.

17 91. PSE apparently has not determined where it will get this additional 1500 MW of supply
18 at this time. Clearly PSE will need to run all its resources including its combined cycle
19 and simple cycle gas fired generators to cover an arctic event winter peak load in 2018,
20 including the 1400 MW of PSE controlled natural gas plants PSE and USE did not
21 include in their power flow studies.

22 92. When the transmission planners do not run 1400 MW of PSE’s natural gas-fired
23 resource in this peak loading condition it causes one to wonder: Where do those
24 transmission planners believe that PSE’s power will be coming from in that high load
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1 event in 2017/2018? Clearly the transmission studies need to have these resources
2 running, even if not needed to relieve transmission overloads, but just in order to simply
3 meet the peak load.

4 93. Further, PSE generation supply needs to identify an additional 1500 MW of generation
5 to be available to PSE by 2018. Locating needed new supply in Western Washington
6 near Bellevue would help meet Bellevue peak load. It may be that other surplus
7 generation in WECC (plants not owned by PSE) may be available to help PSE meet its
8 peak load. But those resources would only be used if studies show they are more
9 economical to run and can be run without causing transmission system problems.

10 94. An Optimal Power Flow (“OPF”) is a computer modeling tool that picks the most
11 economic resources to run to meet load without exposing the system to transmission
12 reliability issues. The ColumbiaGrid studies need to be run with an OPF model. If a
13 Power Flow (PF) model that is not an OPF model is run, then the modelers will need to
14 perform many iterative runs to find the most appropriate generation dispatch pattern to
15 meet the load without causing transmission overload problems. This manual approach is
16 inefficient and less trustworthy than an OPF and liable to produce the kind of
17 inappropriate results obtained in the PSE and USE power flow studies, such as turning
18 off the western generators while also adding the Canadian entitlement. Those two
19 aspects of the PSE and USE load flow studies are inappropriate, rendering any
20 conclusions based on those studies worthless.

21 IV. PREFERABLE ALTERNATIVES TO ENERGIZE EASTSIDE

22 95. Unless someone can provide a legitimate reason that the studies should require flows to
23 Canada, the studies should assume zero flow to Canada. Once an appropriate level of
24 flow on the Northern Intertie is determined for purposes of this study (which
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1 appropriate level would not be 1500 MW and most likely will be zero), and once an
2 OPF model is set up with the data for the incremental operating costs of power plants,
3 the transmission study needs an estimate of substation loading.

4
5 96. If the run is for the year 2018, then appropriate analysis needs to be done to see what
6 the loads on transformers will likely be during peak load hours in 2018. Studying
7 historical loading on substation transformers is the normal way to estimate future loads
8 on those substations. Once all of these model inputs are properly set, then transmission
9 reliability load flows can be run.

10
11 97. **The first run** would be to study the existing system that is in place. PSE has not done
12 such a study. Their load appears to be too high. They are not running existing
13 generation that is available. They are requiring flows to Canada that have no basis to be
14 required. This study may show no need for new transmission for PSE to reliably meet
15 its load. Or it may show some 115 KV line overloads or 230/115 KV transformer bank
16 overloads under contingency conditions. If so, then one needs to see how most cost-
17 effectively to eliminate those overloads. If only 115 KV lines show overloads, then
18 determine how to solve by possibly reconductoring those 115 KV lines. Also, proper
19 studies may show no overloads anywhere.

20
21 98. **A second run** would be to study the existing system with the addition of a new 230/115
22 KV transformer bank at Talbot Hill. This new 230/115 KV bank should eliminate any
23 230/115 KV transformer overloads under contingency analysis and may eliminate some
24 remaining 115 KV line overloads. Then determine how to solve remaining overloads.

25
26 99. **A third run** would involve building a new 230/115 KV transformer at Lakeside and
27 looping the existing Seattle City Light double circuit 230 KV line through the Lakeside
28 substation to feed the high side of this new 230/115 KV transformer. This loop could

1 be accomplished for example as follows:

2 a. As the Seattle City Light line comes from the South and crosses Interstate 90, redirect
3 these lines east parallel to the I-90 corridor until you get to where the proposed Energize
4 Eastside lines would have crossed I-90.

5
6 b. Then turn north and have the lines follow the path of the proposed Energize Eastside
7 line to Lakeside substation. Connect them to the new 230/115 KV transformer at
8 Lakeside. Then from Lakeside substation, have the lines continue north on the path that
9 Energize Eastside would have followed until you reach the Lake Hills Connector.

10
11 c. When you reach the Lake Hills connector, have the lines turn west toward I-
12 405. When the lines reach the existing Seattle City Light lines where these existing
13 lines cross the Lake Hills Connector, have them turn north and resume their original
14 location heading north from the Lake Hills connector. If there are environmental issues
15 in returning to the existing Seattle City Light lines at the Lake Hills Connector, then
16 have the loop continue a little further north before turning back West to the existing
17 Seattle City Light line. This loop would all be overhead and would have much less
18 environmental impact and cost considerably less than the 18-mile new line. Further, it
19 would allow a section of the Seattle City Light lines going over Woodridge Hill to be
20 removed. That would be an environmental plus from the fact that a transmission eyesore
21 currently in existence in a heavily populated neighborhood can be removed..

22
23 100. **A fourth run** would be to start with the base case, but instead of the third transformer at
24 Talbot Hill and instead of the looping of the Seattle City Light line through Lakeside
25 Substation, implement the Lake Tradition alternative that PSE had planned for serving
26 growing City of Bellevue load a few years ago.
27
28

1 101. *Additional generation near Bellevue*. During the California Power Crisis of 2000-2001
2 (a/k/a the power crisis in the WECC area), Governor Grey Davis put together a task
3 force to get new power supplies online within one year. That task force put out a
4 Request for Proposals for new power plants to be built within a year. The result of that
5 effort was a very large number of 50 MW simple-cycle gas turbines were built within a
6 year and located very near large cities in California.

8 102. As mentioned above, PSE has identified it needs another 1500 MW of capacity to meet
9 its system load by the year 2018. That need will dramatically increase if the coal-
10 burning Colstrip plant in Montana is shut down. But PSE's 2013 IRP did not address,
11 among other things, the possibility of building 50 MW units somewhere in the greater
12 Eastside area to accomplish the dual objectives of contributing toward a solution for its
13 need for 1500 MW of capacity *and* simultaneously solving a potential Eastside
14 transmission problem. For a good example in this regard of what a modern city like San
15 Diego has done by building a cost-effective peaker plant in a span of just three months,
16 see Attachment AA. This was not some experimental solution; this plant was built in
17 2001 in just three months.

20 103. These small simple-cycle generators do not cause significant environmental impact due
21 to the fact that they seldom run — only in periods of arctic events that occur about one
22 time in five years. Why couldn't PSE provide some of their 1500 MW of need with one
23 or two of these 50 MW units located somewhere near the greatest load demand in
24 Bellevue?

26 V. CONCLUSIONS

27 104. While I believe it is highly probable that any one of these alternatives could be made to
28 meet the 2018 reliability requirements on PSE's system at a lower cost and lower

1 environmental impact than the Energize Eastside project, I understand that it would be
2 better to study these alternatives properly to know conclusively. Columbia Grid should
3 study these alternatives to the Energize Eastside plan, and FERC should not allow
4 Energize Eastside to go forward unchecked until reliable evidence for its need and
5 scope are available.
6

7 105. PSE was bound by FERC Order No. 1000 and PSE's Compliance Filing that
8 ColumbiaGrid would perform these studies. I should be allowed to participate in those
9 studies and have applied for a renewal of my CEII certification in order to be able to do
10 so. My participation will be meaningful only if ColumbiaGrid performs them.
11

12 VI. RECOMMENDATIONS

13 106. The following are appropriate steps for FERC to take:

- 14 a. Stop Energize Eastside now as being noncompliant per Order 1000 for not having
15 been put out to bid, for no cost allocation having been sought and put in place, and
16 for PSE's promoting and justifying the project without required independent flow
17 studies under the mandated and agreed-upon auspices and control of ColumbiaGrid.
18
- 19 b. Stop Energize Eastside now for being a duplicative, unnecessary and wasteful
20 project under the "single utility" and "public interest" principles of Order 1000.
21
- 22 c. Order PSE, SCL and ColumbiaGrid to properly study the need and full range of
23 options to satisfy the harmonious regional planning requirements of Order 1000, and
24 to do so with complete transparency and in the public interest.
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Respectfully submitted this 4th day of June, 2015.

J. Richard Lauckhart
J. Richard Lauckhart

SUBSCRIBED AND SWORN TO before me, G. BERMUDEZ,
A Notary Public, on this 4 day of JUNE, 2015.

I reside at: 417 MACE BLVD. STE J DAVIS, CA. 95618
My commission expires: AUG. 24, 2018

G. Bermudez

