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Comments on: UE-160918

Title: Response to UE-160918 by James Adcock Long-term PSE IRP Participant

Comments from James Adcock, Electrical Engineer, City of Bellevue Resident.

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80.01.040 (3) Regulate IN THE PUBLIC INTEREST, as provided by the public service laws, the rates, services, FACILITIES, and PRACTICES of all persons engaging within this state in the business of supplying any utility service or commodity to the public for compensation.

The basic issues of concern by the public with regards to PSE are:

1) Needless and excessive environmental damage without any real and substantial consideration by PSE about how to minimize those damages -- to the extent it is possible to do so at a reasonable cost to ratepayers. Not at "no cost at all" but rather at a "reasonable cost." I would think a 10% rate kicker for environmental concerns would be understandable and acceptable to most ratepayers -- who have already told PSE overwhelmingly in previous PSE customers surveys that they want cleaner energy from PSE! These environmental damages can be both widespread, as in the case of CO2 emissions, or very localized, as in the case of Eastside customers having their local environments needlessly destroyed. We understand that not all environmental damages can be avoided at reasonable cost. That is not the problem. The problem is that PSE always games the need, unreasonably sets the value of the environmental damages they are causing impossibly low -- and then in practice they say there is no action they can take to avoid those damages at that price -- and then they act to ignore those environmental damages that they are causing in their entirety! This is simply "PSE Gaming" once again - and over and over again.

2) Overbuild by PSE -- building resources that are not actually needed -- and thereby needlessly raising rates -- by, again, PSE "Gaming" their modeling efforts, most notably overbuilding of Peakers by ignoring (over my continuous complaints for the last 10 years) that "Coldest Winter Days" have become about 15 degrees warmer than the now 100-years-out-of-date data -- what-Puget-calls "Weather Data" -- but which in reality is being used in their Peak Capacity statistical modeling efforts as "Climate Modeling Data." This statistical modeling is further in error, statistically-speaking, by PSE's "Assumption of Stationarity" -- PSE's assumption that 100-year-old "Weather Data" is still a valid representation of currently plausible future weather patterns -- an assumption that is certainly false. As regional climate scientist OCCRI Director Philip Mote says: "Stationarity is Dead!" [100-year-old climatic conditions are not the same as climatic conditions today -- especially in regard to Coldest Winter Days] PSE should no longer be assuming no-climate-change in regards to Coldest Winter Days. For not fixing this problem PSE has invoked the thinnest of all possible excuses: "We are not competent enough as computer

programmers to track down and fix those locations in our code where we as programmers have been so incompetent as to do pre-1970s-style code design where we hard-wired into our code a fixed range of dates of 'weather data' that our code assumes we are going to always, forevermore, be using!"

How much is PSE Gaming the System by falsely making these assumptions -- that climate from 100 years ago is the same as climate in their region today? By about 1,000 megawatts -- by about 10 Peaker Plants. Rather than being slightly short, rather PSE is currently about 1,000 megawatts Peak Capacity LONG. Not to mention the additional 3,000 megawatts which could be brought north from California via the California Interties -- and not to mention the open-secret BPA 10% "Hidden Reserve!"

3) Even while PSE is claiming that they will need additional Peakers in the future to "Keep the Lights On" -- in practice ratepayers know that if there is ONE THING WHICH PSE DOES NOT DO it is to "Keep the Lights On!" I think we all know and recognize that if there are 60+ MPH winds then a lot of distribution lines going down and it's going to be a while before PSE can get the lights back on again. What we do not understand is why PSE keeps wanting to build more and more Peakers when in practice all it takes is a Slight Drizzle or a Light Breeze -- and Our Lights Go Out Yet Again! The solution to these problems ARE NOT Peakers! Rather the solution is actual real "Boots on the Ground" line maintenance, tree maintenance, critter guards, and tree wires in distribution yards -- all incredible inexpensive actions which actually WILL help us ratepayers "Keep Our Lights On!" Tell PSE to Please Get Their Act Together before they even THINK about building a new Peaker Plant!

4) Energize Eastside transmission project. I have complained for many years that PSE has not been doing *INTEGRATED* Resource Design -- they have not really ever seriously considered Transmission as part of the IRP Process. "Transmission IS a Resource" -- as PSE Recently discovered due to their Transmission Redispatch studies. When PSE's left hand ignores what PSE's right hand does they do this for one reason only: In order to Overbuild, thereby causes needless and excessive costs to Ratepayers, including needless and excessive environmental damage costs.

If PSE wants cost recovery from this Energize Eastside project then UTC should require that PSE document peak MW transmission on this line yearly over the last 20 years, the date and hour when that occurred -- and the local temperature and wind speed at that time -- because transmission capacity increases greatly with colder weather and higher wind speed. UTC should examine the growth rates of that real transmission peak capacity usage *which has already happened* and forward-project when the capacity of the lines -- at those temperatures, dates and windspeeds, would actually be exceeded. Only then would UTC have "sanity checked" PSE's claims of actually needing this project. If THE ACTUAL NUMBERS (not PSE's Gamed Analysis) do not show the need for this project based on REAL HISTORICAL DATA, then PSE should be denied recovery.

In regard to specifics of what PSE is currently considering building:

A) I remain very concerned that PSE is going to -- as in the case of the Trans Alta Coal Contract -- suddenly "pull a rabbit out of the hat" and after telling IRP Participants "There's no way in H we are

going to do that" -- that they then proceed to do the exact opposite -- in this case decide that in fact they want to buy and build a new Peaker power plant. Please make clear to PSE that at this time you do not believe any such action would be warranted!

B) I am very skeptical that PSE is going to actually build a solar power plant, although if they were to do so, I would welcome such a move. Contrary to PSE's position that they are a "Winter Peaking" utility, I find instead that they are, in practice -- NET OF REGIONAL HYDRO -- a "Summer Peaking" utility. For example, the last time PSE ran critically short of power, was that during the Winter? No! It was: During the Summer! In general, I will say this again, Washington State generates twice as much power from Natural Gas generators during the Summer than during the Winter. You can either conclude from this that Net-of-Regional-Hydro our state is actually Summer Peaking, or you can conclude that WUTC has *already* allowed Washington State utilities to build twice as much Natural Gas generation as they actually need! So, Summer Solar in conjunction with Hydro Power Storage allows for meaningful additions to Summer Peak Capacity (contrary to PSE modeling which ignores regional Hydro Storage of renewables) and thereby drives down both Summer NG use and CO2 emissions.

If we were ever to actually run short of Peak Capacity two things would have to happen BEFORE PSE would need to build a (Winter) Peaker Plant.

i) Mid-C Markets would have to dry up, meaning that Mid-C prices would become very high and volatile over a large portion of the year. In comparison only one day in the last year were Mid-C prices high enough that a utility would want to be an owner of even one Peaker plant -- for that one day only! Wait until Mid-C Prices become high and volatile before allowing PSE to build a new Peaker Plant!

ii) AC-DC Californian Interties S-to-N capacity would have to be completely exhausted as California utilities ran their NG Plants (which they do not need in Winter) run to provide 4 GW of power to the PNW. But how close are we to this scenario? One recent year had ZERO hours where California provided ANY power to the PNW over the Interties! On the contrary, the PNW including WA *continuously* provided billions of watts of power to California, with California NEVER EVEN ONCE returning the favor. In conclusion: The PNW is Grossly Overbuilt, and PNW Ratepayers are unfairly being required to subsidize Californian Ratepayers! Wait until Winter AC-DC Californian Interties are exhausted S-to-N before allowing PSE to build a new Peaker Plant!

C) Energy Storage. The Pacific Northwest has already by far the largest energy storage system in the world, in the form of the existing hydro power plant storage reservoirs. Unfortunately, BPA does not in practice manage those facilities in the best interest of the PNW, which would be to understand and maximize the energy storage and smoothing of regional "must run" renewables such as Wind and Solar - - and to do so CHEERFULLY, FAITHFULLY and at LOWEST POSSIBLE COST in order to maximize the benefit to the citizens of the PNW as already required by law. I would think it would be appropriate for UTC to talk to BPA about better including renewables energy storage in their "mission statement" -- for the benefit of all citizens of the PNW as required by law.

However, we cannot reasonably blame PSE for BPA stupidity -- PSE has their own set of problems to deal with. As such, I would support PSE purchasing a small, say 50MW x 4 Hours Battery storage facility, primarily to aid in short-term imbalances, but also potentially for peak-shaving on Coldest-Winter-Days

and Hottest-Summer-Days. I have confirmed independently that yes this needs to be a 4-hour facility, not just a 2-hour facility.

D) Wind would continue to be welcome -- if in practice cheaper than Solar -- and if sited to avoid needless and excessive killing of birds and bats. I am very concerned that Staff is even considering near-shore development which I believe will be needlessly and excessively damaging to shore birds, including marbled murrelets.

E) Transmission -- including Energize Eastside. I do not believe PSE modeling efforts nor "public outreach" efforts are credible. As someone who tried extensively to participate in the public process -- and who was continuously denied participation opportunities by the PSE "Facilitator" -- I do not believe PSE engaged in an honest public dialog. For example, I pointed out how PSE "cooked the books" on their initial routing survey -- and PSE refused to ever respond to me. I also suggested simple changes in the Somerset routing to reduce the destruction of views -- swapping the routing of the 115KV vs 230KV segments -- in order to reduce the needless destruction of homeowners' properties -- and once again PSE refused even to respond. I also do not believe that the City of Bellevue-engaged experts actually represent "independent voices" from PSE -- I believe based on my reading of their public documents that -- at best -- they simply reran PSE-provided models on their own computers. This is not real and meaningful "independent analysis" -- which would require an independently-minded review of ALL of PSE's assumptions, including of regional load pattern assumptions, and reasonable trade-offs between "flexibility" and "must-run" scenarios where one or another generating plant must be turned up or down to balance transmission patterns. Utilities DO NOT need "100% Flexibility 100% Of the Time." On the contrary, in a 5% LOLP situation, once in 20 years (about) there should be an "All Hands On Deck" situation where utilities, transmission, dispatches, facilities, etc. all have to work together to give 100% effort to "Keep the Lights On." Further, please note that the historic ColumbiaGrid documents clearly demonstrate that Energize Eastside was NOT a priority way of fixing the small (not large!) transmission problems in the region -- and that on the contrary Energize Eastside was NOT a cost-effective solution!

Finally, please get PSE to improve their group's modeling competence, especially in regard to the effects of climate change. In comparison, while I am not a great fan of BPA's modeling efforts either, they are head-and-shoulders better than PSE's.

Please require that PSE Clean Up Their Act. This behavior has already gone on Way Too Long! Their PRACTICES and FACILITIES are NOT being modeled and designed in the PUBLIC'S BEST INTEREST. Rather, PSE is acting to maximize damage to the PUBLIC for PSE's own interest. You have the power to step in and do something about it. That Time Is Now! Please do not wait for a "total meltdown" like what happened in Hawaii!

Thank you for your consideration,

James Adcock