Northwest **Power** and **Conservation** Council

Minutes for RAAC/SAAC
August 26, 2025

John Ollis, NWPCC, began the meeting at 9:00. Chad Madron, NWPCC, explained how to best interact with the Zoom Webinar. Ollis then called for attendance.

Deriving Reserve margins from Needs Assessment Results (Part1)

Aliza Seelig, PNUCC, clarified that the information on [Slide 13] is a more conservative way of dispatching so utilities would then be comfortable holding back more reserves. She asked if this is true for all seasons/periods of time and how the strategy may affect utilities showing up in markets. Ollis said it is not the same for all hours and there may be periods without additional planning reserves like in the spring. Ollis said this is an exercise in figuring out the granularity needed to avoid overbuilds.

Nicholas Garcia, WPUDA, pointed to staff's newfound ability to look at conditions sub-regionally, asking if part of the regional analysis includes subregion adequacy [Slide 15]. Dor Hirsh Bar Gai, NWPCC, said there is different zonal representation, but staff do not have perfect knowledge into proprietary utility information. Ollis added that the models don't know how different utilities choose how to hedge.

Rachel Clark, Tacoma Power, confirmed that assessing adequacy has no built-in reserve plus operating reserve to start [Slide 16]. Hirsh Bar Gai said this will be discussed later in the presentation. Ollis confirmed that this is looking to uncover a long-term fundamental issue.

Garcia confirmed that the numbers on [Slide 21] say that the needed capacity must be super dispatchable and available for each event. He wondered if the only two resources that could provide this are natural gas and batteries. Hirsh Bar Gai said this is not the point to start looking for a solution as that is OptGen's job.

Fred Heutte, NW Energy Coalition, pointed to violations in some years/runs and wondered about the characteristics of those years/event periods. Hirsh Bar Gai answered that they are associated with more challenging hydro conditions. Heutte talked about the chance of even lower hydro conditions occurring, wondering if this was demand/weather driven, hydro/supply driven, or a bit of both.

Hirsh Bar Gai said this will be shown later in the presentation, previewing that hydro, wind, and solar are correlated with loads. Heutte pointed to periods of low wind in the Gorge that can be

helped with Montana wind. Heutte also pointed to high wind periods that occur right before weather events that coincide with low wind suggesting something that can store that wind.

Scott Levy, Bluefish, thought it might be interesting to find the particular hours of the day where high need events occur. Hirsh Bar Gai said that will be shown during the proposed final step.

Devin Mounts, PGE, confirmed that Genesis is the Resource Adequacy model before asking how the one in ten events will be integrated. Hirsh Bar Gai explained that the thresholds are post processing and Genesis doesn't optimize. Mounts further clarified the procedure.

Levy called [Slide 24] great, saying it may show that batteries are a solution. Hirsh Bar Gai reminded him and the room that this is an example to demonstrate proposed methodology.

Stream Flows & Irrigation

Heutte, after admitting he knew nearly nothing about this complicated topic, asked how robust the analysis on [Slide 5] is. Jake Kennedy, NWPCC, suggested squinting at the data calling it historic and not primary. Kennedy called the work as granular as the data allows

Heutte asked if there were any significant changes in the data from 1998 to 2008. Kennedy agreed there were changes since 2008. Ollis said staff are open to more data sets and this represents a first try.

Tom Chisholm, independent, asked do you account for infiltration resulting from local geology in the question pane. Kennedy said the modified flows and depletion account for returns.

Heutte asked if the data spike on [Slide 8] represents a modeling artifact or something in the historical data. Kennedy called the spike an artifact from the original modified flows. Heutte asked about the scale of the graph. Kennedy moved to [Slide 9] for the actual information on the spike. Heutte agreed that the committee shouldn't get too concerned with the spikiness of the previous slide.

Levy explained what KCFS means for further clarity.

Load Forecasts for Needs Assessment 2025

Glenn Blackmon, WA Dept of Commerce, wrote Assumption that data centers are not weather sensitive is not well-supported in the question pane [Slide 2]. Steve Simmons, NWPCC, said this could be discussed later agreeing that there is not good data on the topic.

Heutte spoke about the size of data centers and the guarded nature of the industry but thought a simple heat gain model could be useful. Simmons said staff used the best data available at the time to do the work, offering to talk more offline. Ollis added that staff processes take time and called seasonality nice-to-have data.

Heutte said he also thinking about the effect of data centers on the annual Resource Adequacy assessment. Simmons answered that staff didn't want to pretend to know more than they do.

Garica said data centers can show up anywhere and 500MW west of the Cascades can have a different impact than 500MW east of the Cascades. Garcia asked how much of the load forecast is BA or region specific versus peanut buttered across the region. Simmons answered that the load forecast is by BA.

Heutte asked if Friday should be considered part of the weekend [Slide Model Algorithm Illustrative Example (II)]. Daniel Hua, NWPCC, replied that the MARS model decided that the BPA ITRON load was a weekend day.

Heutte asked about the categories on [Slide Illustrative Example: Day of Week Categories] saying mid-July to early September is peak heat. He wondered what would happen if Hua shifted months thinking that it probably wouldn't affect it much. Hua said this fit would give the smallest error.

Levy wrote Easily taken offline as this is not at all necessary for today's discussion. (Some) Data Centers will be including their own "behind meter" energy storage, thereby avoiding peak load hours, as well as providing arbitrage possibilities. Two points: 1) Modeling this is going to be (very) challenging. 2) Realizing that many Data Center developers have HUGE investment $ available, state policies that require storage: load ratios are worth considering. Not to be promoting data center growth, but it may be that a symbiotic growth, (e.g. including a storage: load ratio in state policy) might actually improve grid reliability. Maybe I'm being too optimistic, as is often the case. Most important is to realize that these developers, the added cost of storage is quickly recouped. In the question pane [Slide Illustrative Example: Month Categories].

Heutte called this process interesting saying he is interested in "other months" as they are higher than August. Heutte assumed that is because they include March and November. He was also curious about maximum or P95 variance in high load per month. Hua said staff can look into that.

Heutte called it interesting that the highest value on [Slide Illustrative Example: Histogram of Errors] is slightly below zero. He wondered if this is something to be concerned about. Hua agreed that you would but didn't think it was too big. He offered to look into it.

Heutte said we was not surprised by the dispursion on [Slide IPCO: Model Forecast vs ITRON for Month 6].

Heutte wondered what load forecasters think about this method and the results [Slide Regional Histogram of Test Error Fraction]. No load forecasters responded.

Froylan Sifuentes, WWU, wrote Is the average temperature 'dry-bulb temperature' or 'wet-bulb'? how we use HVAC systems would probably depend on other factors too in the question pane. Staff answered that it is dry bulb temperature. Sifuentes wrote Thank you, especially in the summer (and we are trending to summer peaking at least in the southern parts of the region) wet-

bulb temp is a better indicator on comfort/discomfort. We can talk offline about this, since I'm very interested in BPA forecasting.

Market Availability Study Draft Results and Implications

James Adcock, independent, said the transmission lines on [Slide 8] are AC meaning they are symmetrical and fair trade. He then called attention to DC lines which are not fair trade and overloaded which can create an unfair conditions from region to region. Ollis said this slide is not all the transfer limits and it does show DC lines which are not modeled as symmetrical.

Heutte spoke about the Pacific DC intertie saying the line is rated 3220 going south and 1000 going north because of the LA path operator. He thought this operational constraint needs attention as until recently all the flows were North to South. Heutte said that is shifting dramatically due to low hydro and California surplus. Because of this Heutte argued to not only look at historical flows as the limit.

Ollis said this is a benefit of having more detailed modeling and he trusted regional decision makers.

Garcia stated that the permitting process for new transmission is challenging in Oregon and Washington and expressed worry about not meeting the timeline. Garcia called for data with and without the proposed transmission updates to help decisionmakers understand the importance of expanding the grid.

Ollis said staff are also concerned about this and are proposing two to three sensitivities to explore the concern.

Heutte observed that when projects start construction, builders have a good track record of completion. He said he was comfortable with the dates on the slide. Garcia agreed that once you get the permit the ability to build is clear but stressed the challenge is getting permission to build.

Blackmon wrote I don't know if what Garcia suggests is feasible, but it would be great to have that comparison in the question pane.

Heutte called the information on [Slide 10] reasonable. He added that PGE now has 500 lithium-ion batteries and California is booming with over 15,000MW of batteries. Heutte liked the limits put on long-term storage.

James Gall, Avista, asked about nuclear wondering if it isn't an option or if it just wasn't picked by the model. Ollis said nuclear is in Max Clean Baseload. Gall suggested moving from 2040 to 2035. Ollis said it represents when it's online and not when building starts. Ollis agreed the online dates have a lot of uncertainty and will be tested further in scenario work.

Heutte pushed for geothermal to be represented in the chart pointing to 500MW coming on in 2028.

Gall asked about the H2 PEM wondering if it was for generation or load [Slide 19]. Ollis said it's a proxy for mid-duration storage.

Adcock noted that the new climate models are a few years old [Slide 25]. He stated that if the realities of climate change don't match those models they should be discarded. Ollis pointed to analysis that explored matching saying it looks good.

Esther Neuls, BPA, wrote Thanks for all these great materials! Are the links to each topic presentation available to view right now? or at some later time? In the question pane. Ollis said the links are available on the agenda and you can also follow up offline for more background data.

Ollis ended at 12:10.

Attendees via Zoom Webinar

Jennifer Light	NWPCC	James Adcock	independent
Tomás Morrissey	NWPCC	Nicolas Garcia	WPUDA
John Ollis	NWPCC	Devin Mounts	PGE
Steven Simmons	NWPCC	Elizabeth Osborne	NWPCC
Jake Kennedy	NWPCC	Glenn Blackmon	WA Dept of Commerce
Dor Hirsh Bar Gai	NWPCC	Jaime Stamatson	Montana
Daniel Hua	NWPCC	James Gall	Avista
Aliza Seelig	PNUCC	Mike Swirsky	Critfc
Rachel Clark	Tacoma Power	Ryan Egerdahl	BPA
Nora Hawkins	WA Dept of Commerce	Tom Chisholm	independent
Lisa Stites	Grant County PUD	Fred Heutte	NW Energy Coalition
Shannon Souza	Obsidian Renewables	Brittney Heth	CA Dept of Energy
Mary Kulas	Consultant for PPC	Sanjeev Joshi	Critfc
Pat Byrne	BPA	Brian Dekiep	NWPCC
Alexandra Karpoff	PSE	Peter Jensen	NWPCC
Froylan Sifuentes	WWU	Esther Neuls	BPA
Kaitryn Olson	PSE	Eric Graessley	BPA
Sophie Major	WA UTC	Scott Levy	Blue Fish
Alyssa Tavares	CA Dept of Energy	Jared Hansen	Idaho Power
Peter Puglia	CA Dept of Energy	Annika Roberts	NWPCC
Heather Nicholson	Orcas Power & Light	Christian Douglass	NWPCC
Doug Grob	NWPCC	Ian McGetrick	Idaho Power
Joaquim Garcia	PSR Inc	Blake Scherer	Benton PUD
Barbara Miller	US Army Corps of Engineers	Brittany Andrus	WECC
John Lyons	Avista	Landon Snyder	Snohomish PUD