

**Northwest Power and Conservation Council
Resource Adequacy Advisory Committee
April 2, 2024**

Council Member KC Golden acknowledged co-Chair Rob Petty, BPA and welcomed attendees at 9:30am. He recognized the many comments the Council received about the recent winter cold snap and the region's many drivers of accelerated load growth, adding that there has never been a more vital time to talk about resource adequacy. Petty agreed about the importance of this work.

Dor Hirsh Bar Gai, NWPCC, called for introductions. Chad Madron, NWPCC, explained the best way to interact with the Go-to-Webinar platform.

The 2029 Adequacy Assessment Kickoff

Golden felt that the recommendations outlined on [Slide 13] made sense.

Fred Heutte, NW Energy Coalition, wanted to address the alignment between the Council's approach and the Western Resource Adequacy Program's (WRAP) take. Hirsh Bar Gai asked him to hold his comment until later in the presentation.

Golden stated that LOLEV seems a bit misleading if the metric is describing shortfalls and not curtailments. Hirsh Bar Gai said the model sees the event as a curtailment as there is not enough supply to meet demand.

Golden understood that, but said it doesn't change the underlying reality, and called for more precision when talking about the difference between a shortfall and a curtailment. Hirsh Bar Gai pointed to the term of "things you want to avoid at all costs" wondering if the risk tolerance in that case is 100%. He said there is room for that conversation but cautioned that over the whole distribution there will be events that could never be mitigated. Still, Hirsh Bar Gai agreed there should be more discussion around language.

Petty said the presentation made sense, asking if the RAAC is discussing the metrics or the thresholds around those metrics. Hirsh Bar Gai said staff is confident with the presented metrics and are focusing on the thresholds, adding that staff remains open-minded. He said this is a good place to test both adding that this is the exploratory phase and nothing is set in stone.

John Ollis, NWPCC, said modeling the bulk power system forces the limitations around language and definitions that Golden referred to. Ollis said modeling emergency resources would be too complex and unwieldy to create a timely assessment. Golden thought staff

was modeling the appropriate factors but wanted further discussion around what those factors are called. Ollis thanked him for the clarity.

John Fazio, independent, argued that the nomenclature will never change, and no model can model everything. He said certain terms will stick around, adding that LOLP really doesn't mean Loss of Load at any utility.

Fazio then addressed Petty's comment about the metrics, saying Council staff and the advisory committees took a very deliberate, years-long approach. Fazio thought the end result was very good and pointed to a written narrative that describes the process. Hirsh Bar Gai added that staff also took part in an [ESIG](#) multi-metric adequacy task force that generated [a report](#) that gives insight into what's happening nationally and globally in the field.

Rick Williams, PSU, addressed the possibility of a new advisory committee to address climate and weather. He then pointed to foreseeable combinations of events that could result in major transmission disruptions of electricity and natural gas to and from the region. He called for dealing with the discomfort of stochastically modeling these high consequence events, adding that they are arriving with increasing frequency and severity which suggests historic data sets need to be forward weighted.

(Williams expanded his thoughts in the question pane. He wrote: Thoughtful presentation. Thank you.

The NW Power Act provides significant flexibility to adapt to emerging hazards, vulnerabilities, and risks.

You noted load growth during business-as-usual and the cold snap resulting in load peaks.

What extreme event data sets will be used? We are experiencing a trend of increasing extreme event frequency and severity, so will the data be forward-weighted?

Let's also consider the high consequence extreme events: the combination of extreme events and extended outages much greater than 8 hours resulting in major disruptions in the bulk electric grid and natural gas transmission to/from the NW power system. Failure Modes and Effects Criticality Analysis (FMECA) is a technique.

- Example: Cold Snap + atmospheric rivers resulting in rain/flooding/landslides and snowstorms and resulting in West Coast transmission disruptions to/from the NW power system.
- Example: Heat Dome + wildfires resulting in West Coast disruptions in electric and natural gas transmission.

Williams urged the group to consider other work on this matter, adding that the Power Act allows a lot of flexibility to examine emerging threats).

Hirsh Bar Gai thanked Williams for his comments and pointed to the formation of the new Climate and Weather Advisory Committee (CWAC).

Hirsh Bar Gai then said different scenarios, including resiliency scenarios like wildfire and natural gas pipeline freeze offs, will be discussed later in the presentation. He then said the recent extreme weather temperatures (heat dome and January freeze) is actually represented in the data now being used.

Golden was pleased that temperatures from the last extreme events are in the Council's data sets but cautioned that even these extreme temperatures could be exceeded. He hoped both event frequency and greater extremes will be contemplated. Hirsh Bar Gai agreed that frequency and magnitude need to be explored.

Heutte stated that most of the west is outside of California and that the WRAP is not yet binding with utilities and BAs just joining. He wanted to recognize all of the work that went into creating the body. Heutte then said the Council is going in a different direction with metrics and proceeded to explain why he thought this was okay.

Heutte thought the two bodies serve two different purposes even though they share a lot of the same perspectives, modeling techniques, and metrics. He said the WRAP is more of a support mechanism while the Council is aimed at the boundary conditions of the system. Heutte said the WRAP takes the average load and hydro perspective. He noted that they also take a short-term look, calling this a weakness of the WRAP. Heutte said Council work looks both five and 20 years into the future. He wondered how these outlooks can support each other.

Heutte urged directly addressing these issues and called on the Council to make a statement about the similarities and differences of the two bodies. Hirsh Bar Gai said staff has been trying to navigate this topic over the last year and have had good discussions with the WRAP about it. He said the Council is giving an outlook of where the region should be in the future for the WRAP program to be successful, i.e. that there is enough resources to share.

Hirsh Bar Gai said staff could think about what a paper or message could look like but said there is not yet a quantitative relationship with the thresholds on [Slide 16] to other planning metrics. He added that the member-driven WRAP may call for new metrics as well.

Heutte said the region will inevitably have to wrestle with two different modes of resource adequacy: the planning, longer term mode that leads to finding new resources and the

operating RA that asks what can you do with what you have. He said this will continue to bring up the question of why there are two different modes. Hirsh Bar Gai agreed.

Fazio stated that the Western Power Pool is not ruling out moving to multiple metrics but are presently overwhelmed. He then said the global electric industry is moving to multiple metrics. He said it is yet to be determined if the Council's resource adequacy standard is more or less risk adverse than the WRAP, but that will change after completing some studies.

Golden wrote: Thanks Fred and Dor, I agree that some explicit clarification of the relationship between WRAP and the Council's RA work would be helpful, in the chat.

Scenarios?

Williams called the results of the Columbia River Treat a rich topic that could have lots of outcomes including reduced flows and increased flooding. He said this could affect flexibility and prices and suggested teasing out several scenarios. Hirsh Bar Gai said this is an important topic and will require further discussion.

2029 Adequacy Assessment Timeline

Fazio asked who is proposing the hydro operations changes mentioned on [Slide 25]. Hirsh Bar Gai pointed to ongoing rulings with the federal government and local stakeholders. He said this mostly focuses on flex spill in the lower Columbia and Snake and the move from hours to whole day.

Ryan Egerdahl, BPA, clarified that these are not proposals but a new agreement for the next five to 10 years. Ollis added that staff will show the differences of what was available before and after these new hydro operations based on current understandings. He asked for feedback saying this is the chance to do it.

Hirsh Bar Gai thanked BPA and Council Fish & Wildlife staff for their help on this.

Golden thanked Hirsh Bar Gai for his clear presentation. Petty agreed, saying it looks like the committee is on a good path forward.

Golden ended the meeting at 11:00.

Attendees via Go-to-Webinar

Dan Hua	NWPCC	Tomás Morrissey	NWPCC
Dor Hirsh Bar Gai	NWPCC	Chad Madron	NWPCC
John Ollis	NWPCC	Pat Byrne	BPA
KC Golden	Council Member	Katie Chamberlain	Renewable NW
Rob Petty	BPA	Rackel Clark	Tacoma Power

Dylan D'Souza	NWPCC	Damon Pellicori	Northwestern
Rob Diffely	BPA	Steven Schmitt	Northwestern
Ryan Egerdahl	BPA	Mathew Stajcar	Northwestern
John Fazio	independent	Rick Williams	PSU
Sean Ford	Portland PPC	Mike Wu	CA ISO
Jared Hansen	Idaho Power	Brian Dekiep	NWPCC
Fred Heutte	NW Energy Coalition	Brian Dombeck	BPA
Aditya Jayam Prabhakar	CA ISO	Frank Brown	BPA
Peter Jensen	NWPCC	Curtis Dlouhy	Oregon PUC
Sai Koppolu	CA ISO	Elizabeth Osborne	NWPCC
Mary Kulas	Nuclear MMK	Stephanie Price	Puget Sound
Jennifer Light	NWPCC	Adam Schultz	CA ISO
Ian McGetrick	Idaho Power	Danielle Szigeti	Tacoma Power
Craig Patterson	independent		