PNUCC REPORT

Northwest Power and Conservation Council
Meeting Notes
June 12 and 13, 2018
Portland, Oregon

System adequacy was the theme of June's Council meeting as presentations from PNUCC, Bonneville and Council staff forecasted the state of the Northwest power system with coal plant closures looming. In addition, Elliot Mainzer joined his fish and wildlife team to outline the "tough conversations" ahead with stakeholders as the agency implements program cost reductions.

Council Members Jim Yost, Guy Norman, Ted Ferrioli, Bill Booth, Tim Baker and Richard Devlin were present. Member Tom Karier joined by phone and Council Member Jennifer Anders did not attend. The next Council meeting is in Missoula, Montana, on July 10 and 11, 2018.

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The Agenda

What's on the horizon for the NW power industry?

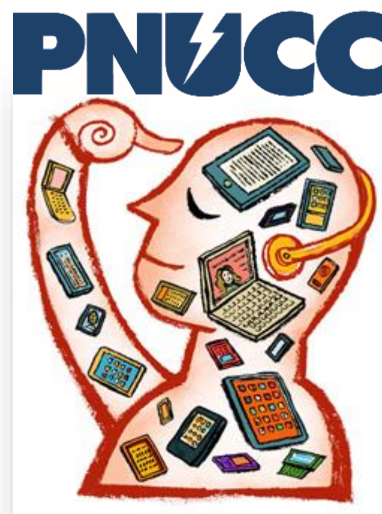
The latest PNUCC Northwest Regional Forecast (NRF) shows that while a gap between peak power supply and demand is narrowing in the winter, the gap is beginning to grow in the summer as PNUCC's Executive Director Shauna McReynolds and Tomás Morrissey, senior policy analyst, discussed the NRF findings with Council Members. Both winter and summer start looking more challenging as the coal plants are scheduled to retire. "It's a barometer that we are watching closely," McReynolds said, "but we're not in a panic mode."

First published in 1954, the Northwest Regional Forecast (NRF) is a regional picture of the sum of the region's utility load forecasts, along with the current and expected generating resources (long-term contracts and utility owned or utility expected) providing a projection of future needs. It only includes independent power produced generation if it is under a long-term contract.

Parsing out the sum, reveals load growth continuing to vary significantly by utility. Bullish growth is found in pockets of rural areas where high tech and cryptocurrency are locating. Yet on the bearish side areas like Seattle, where the economy is doing very well, find loads are flat or declining as energy efficiency and codes and standards continue to do their job as a least cost resource – a common theme as utilities continue to exceed regional energy-efficiency goals.

There are very few new resources, dispatchable or otherwise, coming on-line and retirements are adding up, Morrissey continued. And the regulatory and political atmosphere has only increased uncertainty with the use of natural gas for energy being questioned. This caught the attention of Council Member Bill Booth who asked if there will be enough energy coming online, firm power, to handle growing summer demand.

Morrissey replied that the amount of new resources firmly committed is a little thin. For example, there are no new gas plants firmly committed in the Northwest. "We're about 30 months south of 2021," he said. "It's tough to build something thermal in that time period." Morrissey said utilities are also feeling less comfortable about the coming years as fewer resources come on-line and thermal unit retirements WECC-wide add up.



Looking at the use of demand response to address future load, summer irrigation programs have been some of the most successful, McReynolds said. However, during the winter, utilities haven't been able to capture demand response programs at the same level.

"Utilities are working rigorously to find options for demand response without the success they had hoped for," she said "The targets in the Council's Seventh Power Plan aren't aligned with what's happening, but it's not for a lack of trying. Finding the right balance with the right customers in the right location is a challenge."

"My gut reaction is that we are fine-tuning," she said. "There are utilities in need of resources, not just in Oregon, and the utility industry is in a completely new space. My view is that we're getting closer to needing something. We'll become super-efficient, but then what?"

Council's regional adequacy analysis gets interesting by 2025

The Northwest power supply picture should be adequate for the next two years, but in 2021, as coal plants retire, things start to get interesting, reported John Fazio, the Council's senior systems analyst.

Fazio guided the Council through the 2022-2023 Adequacy Analysis and Report, an annual exercise to determine if the region's power supply is adequate. Under the Council's standard, the region's loss of load probability (LOLP) must be 5 percent or less to be deemed adequate. However, following 2021, when the Northwest loses 1,300 MW of capacity, the LOLP bumps up to 6 percent. Fazio added that in 2022, the LOLP increases to about 7 percent and with low load growth is slated remain at 7 percent in 2023. The report is only meant to be an early warning, Fazio explained. He said most problems will occur in the winter.

What could mitigate the shortfall? Fazio said that there is about 800 MW of unspecified capacity in the planning stages. In addition, the Seventh Power Plan analysis recommends another 400 MW of demand response by 2021. This amount was not included in Fazio's analysis.

Council Member Karier said that nudging up to an LOLP of 7 percent isn't good, but it's not the end of the world. He said the region needs to meet its energy-efficiency targets and that the Seventh Power Plan's demand response goal of 600 MW needs to be acquired as well. Council Chair Yost added in jest, the probability of getting 400 MW of demand response is the same as hitting a black 13 at the roulette table in Elko, Nevada.

BPA projects energy and capacity needs – EE will help satisfy

One thing is certain, analysts agree that energy deficits are on the horizon. An analysis of Bonneville's Resource Program reveals that the agency is energy limited with annual energy deficits beginning in fiscal year 2021 and growing to 850 aMW by 2039, explained Rob Petty, Bonneville's manager of power forecasting and planning. The biggest forecasted deficits occur in the winter with smaller deficits in the early spring and late summer.

BPA's needs assessment forecasts a capacity deficit in late summer 2025, but it is not forecasting a winter capacity deficit through 2039. Currently, BPA is not forecasting the need for additional balancing reserves beyond what the federal system can provide.

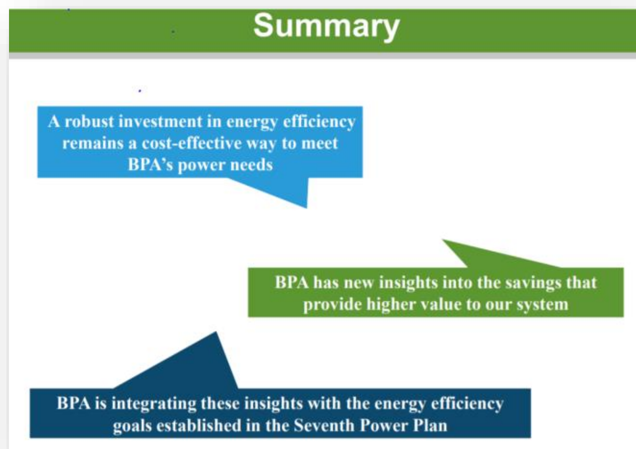
The agency also looked at the conservation and demand response potential in its area, as well as the potential for adding new resources and market purchases. Petty said that BPA can continue to meet its obligations with a mix of energy efficiency, demand response and market purchases through 2039. He said that energy efficiency is a significant component of the agency's least-cost acquisition portfolio.

Energy efficiency success allows BPA to hold the line on budget

Kim Thompson, Bonneville Power Administration's vice president of energy efficiency, talked about how the agency is incorporating the findings from its Resource Program analysis. BPA looked at 2016-2021 programmatic, market transformation and momentum savings.

With Bonneville's 2016 Energy Efficiency Action Plan projecting a total of 581 aMW of savings towards the 7th Plan goal, fewer programmatic savings will be needed in 2020 and 2021 to meet the Action Plan – allowing Bonneville to keep the same level of energy efficiency budget ($134M) for 2020-2021, Thompson said.

There will be some program portfolio shifts skewed toward measures that provide the highest benefit to BPA, Thompson said, and come at a higher cost than what the agency has been implementing. Bonneville will begin its regional engagement on these potential program changes this fall.



Looking at demand response, a resource near and dear to the Council, Thompson said it plays a role in meeting BPA's least-cost needs.

Without providing specifics on a potential program, she did say that up until now, the agency has worked on how to do demand response and what's required. Going forward, demand response will be tied to the resource program, nonwires analysis and the integrated planning that's underway. They still need to design a program that would deliver summer capacity, set the price for it and provide an implementation plan.

Rubber meets the road for BPA Fish & Wildlife Program

Bonneville is moving to shrink its Fish and Wildlife Program expenditures by about $30 million as part of an agency wide cost-reduction effort. The amount represents about 10 percent of its Fish and Wildlife Program budget.

Calling BPA's trajectory of rate increases and programmatic cost increases unsustainable, Administrator Elliot Mainzer told Council Members that the agency is at a point where the "rubber is meeting the road" and they have to make the difficult decisions to start bending the cost curve. The agency just released its Integrated Program Review for 2020-2021 which outlines BPA's efforts to keep programmatic costs at or below the rate of inflation over the next 10 years.

Mainzer said that with regard to its Fish and Wildlife program, the agency has to make sure that it is "maximizing investments based on biological value, cost effectiveness, prior implementation performance and ultimately a connection to mitigating for effects from the FCRPS."

Bryan Mercier, BPA's Fish and Wildlife executive manager explained that they are confident in their decision-making around the cuts but are open to discussing them with stakeholders. Some of the reductions will be in monitoring and evaluation programs in favor of on-the-ground mitigation work.

In electing where to make cuts to the $300 million program, Vice President Lorri Bodi told Council Members that they have been careful to pick those items that won't jeopardize their biological objectives, legal compliance and emphasis on making progress on the ground. Good stewardship will allow them to continue to meet the goals and continue to support many cutting edge, innovative programs, she said.

"BPA has an obligation and a capacity to sustain a significant fish and wildlife program for years to come," Mainzer said. "But I think it's a finite capacity. As we work with other federal agencies, states, tribes, and members of our congressional delegation, and look at how resources are allocated, we'll think about some rebalancing. It doesn't have to be massive rebalancing, but it's necessary."

Mainzer extended his appreciation to Bodi for her efforts as she heads into retirement. Adding her legacy of accomplishments is evident in the innovative programs she managed through the Fish and Wildlife Program. This was echoed by the Council.

Council Briefs

Regional Technical Forum shares its 2017 Annual Report

The Regional Technical Forum (RTF) briefed the Council on its 2017 activities and summarized its priorities going forward. Manager Jennifer Light reported that the RTF updated a number of its analyses, such as updates to residential lighting measures as federal standards shifted future potential savings estimates. It also continues to examine the quality of capacity savings calculations from RTF measures. To further awareness, the RTF published articles for public consumption and produced informational videos. The RTF is an advisory committee to the Council that quantifies energy savings estimates for specific, efficient technologies or actions.

Council staff looks at energy efficiency and economic trends

Member Tim Baker said that Council staff examined energy efficiency to determine if the region is saving the amount claimed. Staff estimated what the energy demand would have been in 2015 if energy efficiency was kept at 1990 levels. The look found that if the regional economy had the same level of usage, regional loads would be about 14,000 aMW higher than they were in 2015. Staff showed that 58 percent of the reduction is due to a structural change in the economy, but that still leaves 42 percent of the savings resulting from energy-efficiency programs. Overall, the numbers appear to support the Council's energy-efficiency savings claims.

BPA and PGE ink power purchase agreement

Bonneville Power told Power Committee members it has agreed to two, five-year power purchase agreements with Portland General Electric to fulfill a projected shortfall in capacity for the Portland-based utility. The contracts begin in 2021, following the closure of the Boardman coal plant. BPA will offer to sell 200 MW of excess hydropower generated the FCRPS.

Staff updates natural gas generation costs for Mid-Term Assessment

As part of the upcoming Mid-Term Assessment, staff is updating resource capital costs. This month, staff reported on natural gas generation, specifically combined cycle combustion, single cycle combustion and reciprocating engine technologies. These resource costs are used by utilities in their resource planning activities. Generally, prices were stable or decreasing for the three natural gas technologies.

Cannabis electric load in line with Seventh Power Plan

A survey of cannabis production in 2018 put electricity demand at 112 aMW, Member Baker reported. The Seventh Power Plan estimated a high range of 110 aMW. Staff reported that demand could be "higher" if producers grew plants exclusively indoors instead of growing outdoors. Member Baker said there are hopes of achieving greater energy savings in this sector through new technologies.