MEMORANDUM

EUGENE WATER & ELECTRIC BOARD

Rely on us.

TO:	Commissioners Carlson, Mital, Helgeson, Schlossberg, and Brown
FROM:	Susan Ackerman, Chief Energy Officer, Megan Capper, Interim Portfolio Management Supervisor
DATE:	August 21, 2019
SUBJECT:	2019 Annual IRP Update
OBJECTIVE:	Information Only

Issue

The intent of this 2019 Integrated Resource Plan (IRP) update is to:

- Provide high-level context and update to the 2011 Action Items.
- Discuss the industry landscape as the organization prepares for the next IRP.

Background

Integrated Resource Plans are tools to assist utilities in making good decisions about long-term generation resource choices under various scenarios. EWEB completed its last IRP in 2011. Since then, staff have updated the Board annually on the resulting action items. This year, in addition to the 2011 IRP Update, we will address the many changes we see in the industry, to set the stage for the upcoming integrated resource planning process. This effort directly supports the three-phased approach to EWEB's Strategy by creating a repeatable IRP planning cycle and supports decision making around generating resources, energy efficiency, and customer solutions programs as the organization seeks to efficiently and effectively synchronize our loads and resources.

Discussion

Summary of 2011 Action Items and 2019 Update

In the 2011 IRP, EWEB concluded it had no immediate need for new resources and recommended relying on conservation programs to meet future customer load growth, augmented by market purchases in the event of a new large load. The only instance in which EWEB was forecast to have a potential supply shortage over the 20-year study period was during an extreme (one in ten) weather event.[1] Below, we highlight the most relevant changes from our last update. At this time, EWEB's portfolio remains adequate for meeting our resource adequacy needs for at least the next 5 years.

[1] Peak demand due to cold temperatures.

Update to Action Items since 2011 IRP

Below is a summary of each adopted action item with discussion of adaptations to fit with current industry, market, and affordability trends.

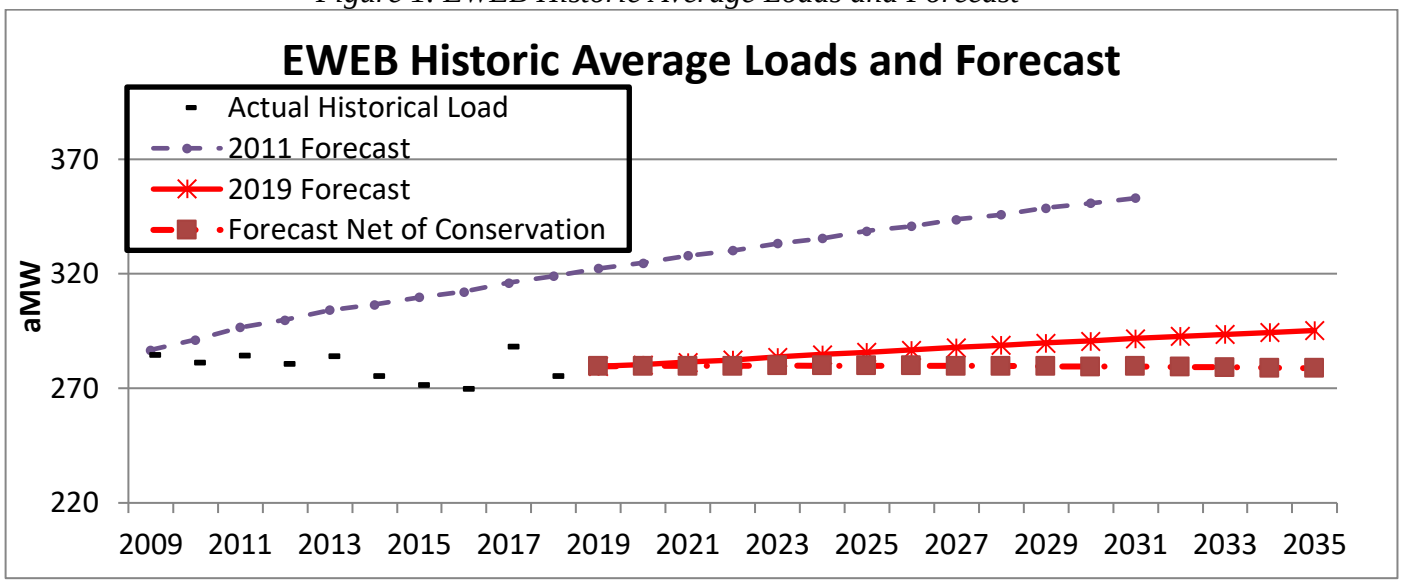
2011 IRP Action Items:	**2019 IRP Update:**
Meet load growth with conservation.	We have been meeting this action item.
Work with our customers to avoid peaking power plants by using new demand-side management programs.	As the regional generation supply tightens with early coal generation retirements, EWEB will look at both supply-side resources and demand-side opportunities to serve peaking needs.
Continue to cultivate regional partnerships.	Our regional partners continue to help influence regulatory, and policy developments reflecting our customers' interests.
Enact a new large load strategy, if needed.	We have a tariff in place for any new large load.
Annually update key planning assumptions and look for material changes.	The updating of assumptions is ongoing with some expected trends accelerating. We will configure and implement new planning models and adopt best practices to address recent industry changes.

Meet Forecast Load Growth with Conservation

Load growth continues to be lower than anticipated and forecasts are declining slightly. EWEB continues to meet all load growth with conservation.

The 2019 load forecast model projects a 0.3% annual average growth rate through 2035 for the combined residential and commercial classes, which is lower than the original 2011 IRP forecast of roughly 1.0%.

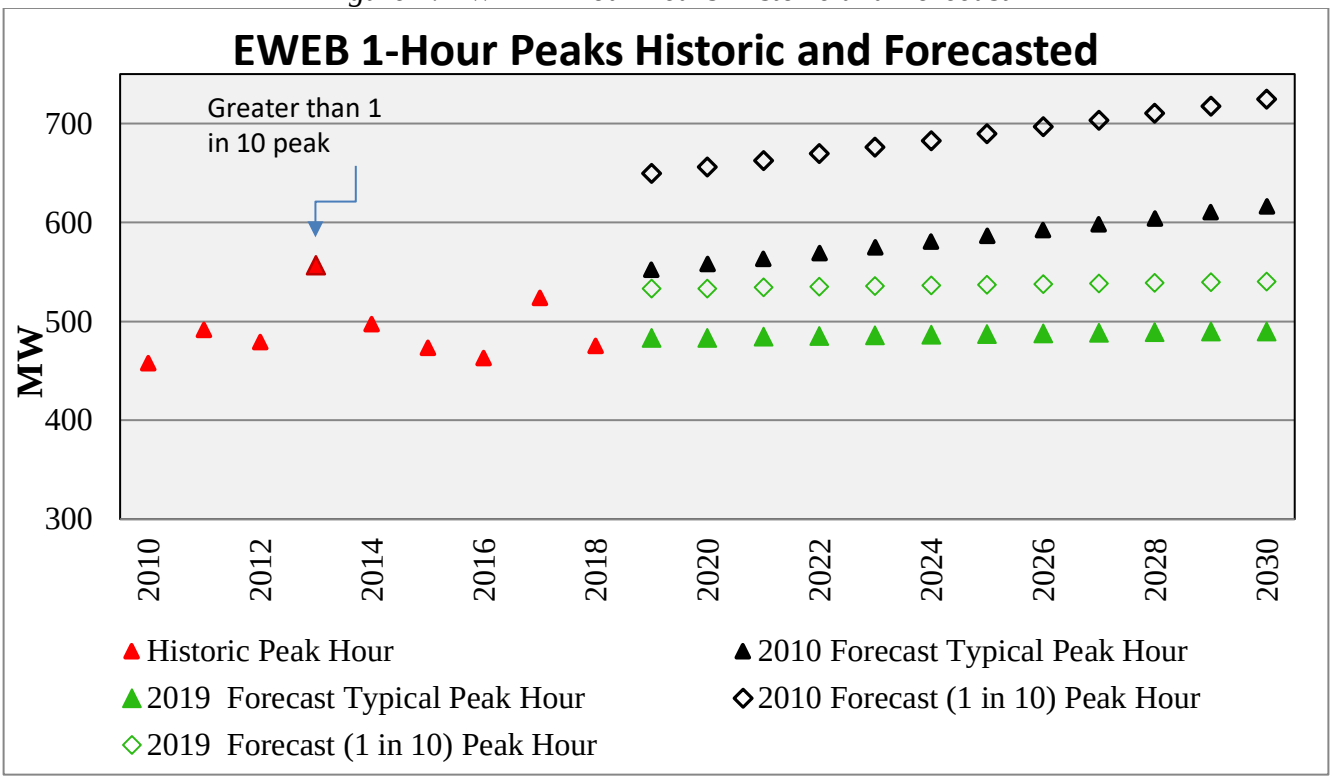
Figure 1. EWEB Historic Average Loads and Forecast



Annual conservation goals are based on our decreasing load growth forecasts. As a result, updates to load forecast have reduced conservation acquisition targets significantly from the 2011 IRP. EWEB began targeting a peak reduction for conservation in 2017 determined by the annual load forecast of expected (normal weather) peaks. Both energy and peak targets are managed within a target of plus/minus 10%, with energy target and peak treated as a minimum.

Customer Solutions has been successful in managing customer uptake of program offerings and savings between sectors to meet targets.

Figure 2. EWEB 1-Hour Peaks Historic and Forecast



Partner with Customers to Avoid New Peaking Power Plants

Markets for both energy and capacity continue to be liquid, and we have leveraged the wholesale market to meet higher than expected energy and capacity needs caused by extreme weather events.

Additionally, EWEB recently joined the Northwest Power Pool's (NWPP) Resource Adequacy Evaluation effort, intended to review the tightening of regional generation supply. This effort is in response to earlier than expected coal plant retirements. EWEB is represented on the Executive Advisory Team and at the committee level, and will provide an update to the Board on the question of regional resource adequacy when more information becomes available.

On the demand side, we are looking at the following customer programs that would reduce consumption during peak hours:

> *Demand Response* ("DR"): To understand the potential of this strategy, EWEB conducted seven DR demonstration projects (four residential and three commercial/industrial). These projects demonstrated that control technologies generally work well, but metering, telemetry, and validation methods are required. Additionally, the lack of a market price signal to both pay for

the upfront cost and pass through an incentive to the customer makes DR a suboptimal solution at this time. EWEB will continue advocating for capacity market pricing opportunities to maximize the potential of DR products. However, working with customers and developing high-level DR plans, such as the Business Growth and Retention tariff, is a good practice for EWEB, as it builds EWEB's organizational capability to respond with more robust DR products when pricing signals improve and technologies advance.

Microgrids: Power planning is part of the Grid Edge Demonstration project team and will help to shape the control strategy and study the resiliency benefits of micro grid technology and batteries.

Continue to Leverage Regional Partnerships

EWEB staff advocate on behalf of customer owners to preserve and enhance the value of our power portfolio, consistent with community values. Building upon decades of successful partnership, EWEB influences BPA decision-making through regular input at the policy and rate-case levels. Additionally, EWEB staff engages with decision makers at the state, regional, and federal levels on energy and transmission policy.

Pursue New Large Load Strategy, if Needed

A key discussion in the 2011 IRP was how to serve a new large load, since it is unlikely conservation could ramp up quickly enough to offset such load growth. The IRP recommendation was to rely on existing resources, conservation (where possible), and market purchases to meet the increased demand. That recommendation will continue to work for the utility.

Annually Update Key Planning Assumptions

Staff have spent the past year configuring and validating new resource planning models. These tools are kept up-to-date as new information and assumptions become available, reflecting the best available data to inform resource decisions as they arise.

2019 IRP Update – Next Steps

Management is providing this annual update as part of its commitment in the 2011 IRP. Staff will continue to exercise the flexibility inherent in the 2011 IRP to meeting IRP objectives, including supporting EWEB's affordability goals. This includes monitoring, engagement, and a comprehensive review of all of the action items and drivers discussed in this report.

Summary

At this time, EWEB's portfolio remains adequate for meeting our resource adequacy needs for at least 5 years. The utility environment is quickly evolving and EWEB faces a number of important decisions over the next decade, including the need to replace nearly all expiring purchase power agreements. To help guide that decision-making process, staff is developing a new and comprehensive IRP process.

Requested Board Action

This update is for informational purposes only, as established in 2016.