MEMORANDUM

EUGENE WATER & ELECTRIC BOARD

Rely on us.

TO: Commissioners McRae, Barofsky, Schlossberg, Brown, and Carlson

FROM: Brian Booth, Chief Energy Resource Officer; various staff from Finance, Customer Service, and Power Planning

DATE: September 3, 2024

SUBJECT: Annual Energy Resource Study Update

OBJECTIVE: Information Only

Issue

EWEB staff are required to provide an annual update on the status of resource planning efforts. The purpose of this memo and the presentation is to provide a high-level overview of the growing demand for electricity in the northwest, EWEB's piece in that puzzle, and our efforts to measure and solve Eugene's electricity needs for the coming decades.

Background

Last year, with the expiration of the current Bonneville Power Administration (BPA) contract and numerous other power purchase agreements looming in the late 2020s, staff completed an electrification study and EWEB's first Integrated Resource Plan (IRP) in 10 years. That study showed a need for new generating resources as rising demand would outpace the energy efficiency efforts that have kept EWEB's load flat for the past decade. It also produced near-term action items including a Demand-Side Potential Assessment (DSPA), pricing reforms, modeling improvements, and engagement with local generators.

Since the completion of the 2023 IRP, electricity demand and expectations for future growth in the Northwest have surged. The latest aggregation of utility forecasts shows expected loads to grow by 30% in the coming ten years, a growth rate a third higher than expected in 2023 and three times higher than expected in 2022. The technology sector, including AI and data centers are the primary driver of today's growth and exponentially increasing electrification is expected to become the dominant factor in out years.

The region has responded by similarly increasing plans for future resource development with nearly 30 gigawatts of new generation in the 10-year forecast. These future resources are expected to consist primarily of wind, solar, storage, and combinations thereof along with a relatively modest 1-2 gigawatts of traditional peaking capacity.

With the rapid increase in demand and required resources has come a bottleneck: transmission. Although transmission constraints have been expected, the rapid increase in requests for new loads and generator interconnections has overwhelmed the regional planners. With many tens of

gigawatts of new load requests and *one hundred* gigawatts of new generation requests in the transmission queue, BPA is looking to quickly grow their capacity to build. This will take time as BPA's current workforce and/or contracted resources will need to grow dramatically to even be able to plan, design, permit, and then eventually build.

EWEB's load expectations are directionally similar but substantially different than those of the region. There are no data centers located in EWEB's service territory and, while that could change quickly, the Willamette valley has not been a historical hotspot these *very* large electricity consumers. Instead, EWEB's load growth trajectory is driven largely by electrification and modest growth in our core customer base. In terms of energy, EWEB's expected 8% growth over the next 10 years is relatively modest compared to the energy-intensive 24/7 data center growth that is pushing the region. In terms of peaking requirements, electrification growth could drive a much more challenging increase in peak loads as it exacerbates the seasonal and hourly peaks that are most expensive to serve. Assuming managed EV charging, EWEB's peak loads would be expected to grow proportionally with energy use (8%), but our peaks could be 13% higher in the next 10 years if EWEB is unable to shift customer charging away from our system peaks.

Discussion

EWEB is presently in the enviable position of having surplus electricity in most hours but the situation will change substantially later this decade. With multiple, valuable long-term contracts set to expire in the next few years, staff are working to capitalize on our current advantage while also preparing to rebuild and right-size the portfolio of resources that we will rely on to serve our customers in the near-future.

Since the completion of the 2023 IRP, staff have acquired outside expertise and launched a Demand-Side Potential Assessment (DSPA) that will better measure the potential for electrification, energy efficiency, and advanced rates such as passive time-of-day pricing and active demand response in EWEB's service territory. With the DSPA pending and the latest load forecast in hand, staff have a more precise view of EWEB's future electric needs and started modeling least-cost, energy portfolios to meet EWEB's carbon and reliability goals over the next 20 years. Staff are also working with EWEB's Executive Steering Committee to complete an Energy Resource Study (ERS) which will compile useful information for making the BPA product decision in June of 2025. Initial results of the ERS will be presented to the Board in December this year.

Advanced rates are expected to be a part of any least-cost solution and a roadmap is being developed for board consideration. Low-cost federal power is also expected to be foundational in any reasonable path forward and so modeling is focused both on measuring what gaps are left between our loads and our share of the federal system if we were to choose any of the various BPA products and also solving for those gaps with the least-cost combination of supply and demand-side resources with an eye on what can be feasibly delivered to Eugene.

Recommendation & Requested Board Action

The purpose of the presentation is to share updates relating to EWEB's resource planning efforts, the 2023 IRP action plan and to provide highlights of the evolving regional situation. No action is requested at this time.