



MEMORANDUM

EUGENE WATER & ELECTRIC BOARD

Rely on us.

TO: Commissioners Brown, Mital, Helgeson, Manning and Simpson
FROM: Mel Damewood, Engineering Manager
DATE: December 19, 2014
SUBJECT: Electric System Planning Update
OBJECTIVE: Information/Background Only

Issue

On January 6, 2015, staff will present an update to the Board on the electric system plan.

Background

While our intent is to eventually include generation resource planning, market and regional trends, new operating methods, and the impacts of customer-partnerships and new services, the present electric system plan focuses on the “delivery” of electricity including EWEB’s transmission and distribution (T&D) system.

Discussion

The electric delivery system plan includes assumptions of load/growth, urban growth boundary expansion, asset aging, and system reconfiguration/optimization all under the guiding assumptions of EWEB’s strategic plan. As a takeoff from last year’s capital improvement plan, the electric T&D plan will be driven by the following strategic drivers:

- Flexibility (Dials) – Provide for adjustable levels of financial capital and human investment prioritized by compulsory versus strategic. Compulsory work includes regulatory, safety, and obligation-to-serve.
- Capital Asset Re-Deployment – Leverage past investments to optimize long-term utilization and reduce compulsory spending.
- Resilient Core – Focus reliability spending on the most critical parts of our system.
- Future Trends – Plan, design, and (re-)build infrastructure to align with future trends, including distributed energy resources and new services that inspire customers to help EWEB more efficiently balance supply and demand.

For decades, EWEB has invested in electric delivery assets. Our design, geography, weather, operational & maintenance practices, and capital replacement program have combined to provide highly reliable service to our customers. Statistically, our reliability indices compare favorably to other utilities with a SAIFI (average incidents or frequency) of 0.40 and SAIDI (average duration) of 49.9 minutes. Nationally, these indices average more than double those of EWEB’s.

Today, EWEB’s electric system delivers an average 285 MW to 89,000 customers in our 233 square mile service territory using approximately 165 miles of transmission lines, 1,550 miles of

distribution lines, and 17,500 transformers. In 2013, our peak load reached 558 MW on December 9th which is the highest peak in the post-Hynix years. For comparison, EWEB's peak was 567 MW in 1980, 623 MW in 1990, and 627 MW in 1998 (all-time peak).

EWEB's transmission and distribution planning includes a 20-year view of following key ingredients, which will be discussed with the Board throughout 2015. At a system level, plans will include rearranging transmission and substations to better align with consumption and criticality. Territorial load forecasts, urban growth boundary impacts, potential new large single loads (NLSLs), and resiliency to disturbance events (storms, seismic, climate change) will be addressed. At the asset-specific level, optimizing replacement based on safety, reliability, cost, environmental, and social impacts will be covered for large discrete assets like breakers, substation transformers, protection equipment, and transmission assets along with several aggregated asset categories such as distribution transformers, poles, and conductor.

On January 6, 2015, EWEB staff will present updates on the following plan topics to the Board.

- Load Forecasts & Dynamics
- Upriver System Re-Configuration
- Westside System Re-Configuration
- Resilient Core Efforts
- Downtown Secondary Distribution Network
- Asset-Specific Plans (Breakers, Transformers, Relays, Controls, Poles, etc.)

TBL Assessment

A triple bottom line assessment will be completed for selected improvements identified in the plan where appropriate.

Recommendation

None. This is an information item only.

Requested Board Action

None. This is an information item only. Staff will be available present information and answer questions at the January 6, 2015 Board meeting. If you have any questions, please call Mel Damewood at 541-685-7145 or email mel.damewood@eweb.org.