



MEMORANDUM

EUGENE WATER & ELECTRIC BOARD

Rely on us.

TO: Commissioners Mital, Schlossberg, Helgeson, Brown and Carlson
FROM: Rod Price, Chief Operating Officer; Lisa Krentz, Support Services Manager
DATE: August 4, 2020
SUBJECT: EWEB Fiber Optic System Overview
OBJECTIVE: Information Only

Issue

During the July 2020 Board meeting, Commissioners expressed interest in an overview of EWEB's fiber optics program. This correspondence will provide a brief historical overview along with current operational status and potential future Board direction needed.

Background

In 1999, the Electric Utility constructed a fiber optic network within the City of Eugene metropolitan portion of its service territory to provide internal Operations use. Since then, various business strategies associated with the fiber network have been discussed, ranging from exclusive use by EWEB for Electric & Water Utility applications to the creation of a new Telecommunications Business Line with a vision of providing fiber and broadband telecommunication services to every customer's home or business. EWEB fiber uses are consistent with the Board's early direction through which the Utility leases excess system capacity/bandwidth for public and commercial use, generating revenues to offset debt service and Operations and Maintenance (O and M) expense.

Discussion

In 1999, the original fiber optic "rings" were installed around EWEBs service territory west of I-5, mostly connecting substations to the Electric Dispatch in the headquarters building. Originally, fiber was installed using a contractor, and existing staff handled the long-term O and M and asset management. EWEB continues to use the same staffing, with one partial engineering FTE filling the role of asset oversight and point of contact for our fiber plant.

However, the fiber optic cables installed include a number of spare, or "excess", fibers that are not needed by Electric or Water utility operations. Noting that these fiber cables ran all through the EWEB service territory west of I-5, and the explosion of telecommunications, many uses for the excess fibers have been proposed through time. In 2001, The Oregon Public Utility Commission (OPUC) certified EWEB as a Competitive Local Exchange Carrier (CLEC) allowing EWEB to provide limited fiber uses to external customers. At that time, the Board adopted the Telecommunications Vision to:

Develop a locally-owned and managed high speed broadband network throughout the City of Eugene that provides capability for ...Utility operating and business applications; Advanced telecommunications; Multiple service providers; Universal service; and, Public agency applications.

Over time, and numerous changes in the Telecommunications Industry, the EWEB fiber network has

been expanded from 70 to 183 miles of fiber cable and is currently serving 29 different direct customers at 229 locations. It is important to note the EWEB provides only “dark” fibers to external customers, which requires the fiber customers to connect their own network equipment. These various communication needs include: EWEB electric & water utility applications; Public Agency Network (PAN) telecommunications services; School Districts voice and data communications; and commercial customer voice and data communications such as medical offices, LRIG, and the recently installed EUGNet in cooperation with the City of Eugene for 82 downtown Eugene customers.

Fiber customers pay for the construction of all facilities to get connected to EWEB fiber and then a quarterly fiber per mile rate to cover O and M costs. To ensure EWEB is rate neutral for our Electric and Water customers, we have developed a Cost of Service Analysis (COSA) for fiber optic dark fiber rates. The COSA is periodically reviewed and includes yearly pricing adjustments, such as the one we brought to the Board last April. Yearly income from fiber customers is currently \$680,000.

SUB has a very similar history with fiber installation, with the primary use being internal operations and the excess being leased as “dark” fiber by others. Due to up front and ongoing costs, most fiber customers for both EWEB and SUB are primarily commercial and public entities, such as municipalities and School Districts. The main difference between EWEB and SUB is that SUB recently started taking a more open stance on providing fiber, working with contractors and internet service providers to create “Connected Clusters” to provide fiber to the home (FTTH) connections to a wider customer base. SUB’s contractor, XS Media, is scheduling the first groundbreaking to 160 homes this winter.

Looking ahead, EWEB faces several interlinked decisions around our fiber assets. Approximately two-thirds of our fiber plant is nearing the end of expected life. Expected fiber life is estimated by the manufacturers at 20-25 years. However, the industry does not have much historical data to this point, so actual life spans remain unknown. A related issue is that our operational networks are powered by 20-year-old electronics. Historical industry data indicates end of life around the 20-year mark. Our communications systems are looped and redundancy will help maintain reliability, but we have potential upcoming reliability issues as well as capital replacement impacts in the millions of dollars.

The second issue looking ahead revolves around EWEB’s desired level of involvement in the local provision of internet and tele-communications within our customer base. EWEB’s current staffing, guidelines, and Bylaws that lack an obligation to provide fiber optic connectivity limit a broad and equitable increase of our fiber offerings to our entire customer base. An expanded public fiber optic system could play a large role in our community’s financial viability in the future. What EWEB’s role is, if any, in an expanded public fiber network would be for strategic discussion by the Board.

As we plan our fiber asset replacement strategies over the next couple years, we will need to account for any changes to our current fiber service guidelines and Bylaws. Staff will continue to work with the Board through capital planning and budgeting process.

Requested Board Action

No Action requested. Please contact Rod Price at 541-685-7122 or e-mail at Rod.Price@eweb.org with questions.