



MEMORANDUM

EUGENE WATER & ELECTRIC BOARD

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TO: Commissioners Helgeson, Brown, Mital, Simpson and Carlson
FROM: Mel Damewood, Chief Engineering & Operations Officer
DATE: February 7, 2017
SUBJECT: Dark Fiber Strategic Discussion
OBJECTIVE: Board Discussion

Issue

EWEB is in a unique situation in regards to its development of its Dark Fiber Network. Originally, the system was installed as a necessity to operate the electric system. Starting very early on, the extra capacity was leased out to other entities as a public benefit. First were schools and then other public agencies, and most recently commercial entities and internet service providers have been the fastest growing customer group. As a result of this growth in interest for leasing Dark Fiber, management believes it is time for the Board to have a strategic discussion on the future direction of EWEB's Dark Fiber system.

Background

The initial construction of EWEB's fiber optic network consisted of seventy (70) miles of "backbone" cable interconnecting twenty-five (25) of EWEB's metro-area substations and three BPA bulk power stations. The initial build out, completed in 1999 was funded by the Electric Utility primarily for operational uses, including data communications for electric system monitoring and control, voice communications to electric facilities, and high-speed protective relay communications ('teleprotection') on electric transmission lines. Construction was financed with a 1998B Telecom Capital Appreciation Bond totaling \$15.0 million; allocating \$12.2 million for construction, \$2.0 million for debt service, and the balance for issue costs. In 2003, roughly \$2.3 million of the original amount was redeemed and the balance was used to pay for further expansion of the network.

The network was designed and configured with capacity to allow for future interconnections to educational institutions (University of Oregon, Lane Community College and 4J high schools), major Lane County and City of Eugene facilities and local long-haul telecommunication service providers. Over time, all of those interconnects have been implemented, as well as fiber to medical facilities and a small number of commercial businesses.

Implicit in the Board's approval to construct the network were plans to assess the future potential for leveraging excess capacity to provide broadband telecommunications to EWEB customers. The Telecommunications Act of 1996, which deregulated the industry, created "Competitive Local Exchange Carriers" (CLEC's) to compete with the large Incumbent Carriers in place at the time (currently AT&T, CenturyLink, Comcast, etc.). In May 2000 voters approved an amendment to the City Charter authorizing EWEB to provide telecommunication services to the citizens of Eugene.

The Oregon Public Utility Commission (OPUC) certified EWEB as a CLEC in February 2001.

Concurrent with pursuing CLEC certification, staff was moving forward with planning efforts and conceptual designs on two business models that supported the 2001 Vision. The first was a universal “overbuild” that would extend fiber optic cable to every home and business in Eugene (referred to as “Phase II System”) or alternately a hybrid fiber/coaxial cable (HFC) system. Neither option worked from a financial perspective unless EWEB became a content provider (internet service provider, cable TV, etc.), which was inconsistent with Board objectives at the time. The second business model consisted of a smaller data network targeting high tech businesses (“MetroNet”) that was designed to be scalable and that could ultimately expand to a universal build if it became economically and politically viable.

With the decline/collapse of the telecommunications boom in late 2001/early 2002, the Board abandoned plans for the Phase II System and MetroNet and adopted a telecommunications strategy of “Asset Utilization” under which excess fiber optic capacity would be leased to public and commercial entities to generate revenues for offsetting debt service and operation and maintenance (O&M) expenses associated with the network.

Also in 2001, the Board approved an Intergovernmental Agreement (IGA) with nine other governmental agencies establishing a Public Agency Network (PAN) for the purpose of sharing a telecommunications network.

Presently, EWEB’s fiber optic network supports four primary functions:

- Electric & Water Utility Business Applications (primarily operational in nature)
- Public Agency Network (PAN) Voice and Data (dark fiber only)
- School District 4J’s “Light the Apple” Voice and Data (dark fiber only)
 - Added Bethel and Springfield School District facilities in 2012
- Commercial Customer Data Transport (dark fiber only)

Strategic Fiber System Discussion

Overall Fiber System Direction

With the public sector and schools already having met the majority of their fiber needs, future customer growth appears to be primarily with commercial companies and internet service providers (ISP). EWEB’s recent fiber system has grown through capital projects driven by, and paid for by, customers. EWEB has invested very little capital funds to the fiber system in recent years.

Part of the reason for that minimal investment from EWEB is due to lack of a clear vision and direction on the future of the fiber system. In 2015, EWEB staff was asked to recommend a fiber strategy, either provide only Dark Fiber, provide ISP services, or also provide content services. Staff concluded that EWEB would be best served by only providing Dark Fiber, in that EWEB did not have the competency or the resources to start providing ISP or content services. The strategy of only providing dark fiber was confirmed by the Board in May 2016.

While we recognize the importance of public input, the first question to be discussed with the Board is what are the depth and breadth of dark fiber services that EWEB should provide to customers?

Customer Requests

The proposed downtown fiber network has increased customer awareness and interest in EWEB fiber system across the entire city, not just the downtown core. Staff believes this interest has the opportunity to increase as construction on the downtown network is started and customers are coming online. Currently the practice is that if a customer is willing to pay all of the capital cost, fiber optic service will be provided. This has resulted in very slow but steady growth over the years. The biggest hurdle to faster growth is the cost to construct. Also, since fiber is not a core service like water and electric it is often more difficult to retain internal resources.

In order to balance internal resource constraints, staff believes that putting a moratorium on future construction extending the downtown network beyond the current design is appropriate, with the moratorium lifting once the downtown network is finished. That moratorium would not apply to construction outside the proposed downtown network.

Will the Board consider a moratorium on additional downtown fiber requests during core construction of the downtown fiber network?

Separate Fiber Utility

Since inception EWEB has explored many different options and uses for its fiber system. Some being implemented while others were not. The fiber system was largely financed with bonds issued by the electric system, and has been considered a part of the electric system. Management believes now is the time to explore separating the fiber utility from the electric utility.

There are internal, as well as external (to EWEB) reasons to consider a separate fiber utility. One immediate external reason is the proposed downtown fiber network. One of the desired funding sources being explored by the multi-agency project team is a federal grant. Certain terms and conditions of the grant conflict with the terms of the electric utility master bond resolution. Establishing a separate fiber utility may allow for EWEB to accept the grant without conflict with the master bond resolution. From an internal perspective, a separate fiber utility would allow for the revenue and expenses of the fiber system to be tracked in manner that allows for more accurate cost of service analysis for customers.

Does the Board want staff to pursue a planning effort to outline the process and procedures to create a new Telecom Utility, to be approved by the Board at a future date?

Recommendation

Management requests the Board to discuss the future strategic direction and advise management on the creation of a separate fiber utility.

Requested Board Action

None

If you have any questions please contact Mel Damewood at mel.damewood@eweb.org or 541-685-7145.