



# MEMORANDUM

EUGENE WATER & ELECTRIC BOARD

*Rely on us.*

TO: Commissioners Simpson, Brown, Helgeson, Manning and Mital  
FROM: Debra Smith, Assistant General Manager and Dean Ahlsten, Compliance Officer  
DATE: March 8, 2013  
RE: Rate Adjustment for Dark Fiber Lease

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## *Issue Statement*

At the April 2, 2013 Board meeting, management will present a proposed adjustment to the rates that EWEB charges for Dark Fiber Leases. The rates, typically written into multi-year contracts, have not been adjusted since 2004, other than annual Portland Consumer Price Index (CPI) increases. At the March 19, 2013 Board Work Session, Management will provide an overview of EWEB's current "telecommunication" activities and answer questions.

## *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 PeaceHealth 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.

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: 1) Utility operating and business applications; 2) Advanced telecommunications; 3) Multiple service providers; 4) Universal service; and, 5) Public agency applications.

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 ‘lit’ telecommunications network. EWEB has the role of “Executive Authority”, under which it performs fiscal, administrative, and O&M services on behalf of the PAN Committee. EWEB’s Board approves the PAN operating budget in July each year to coincide with PAN’s fiscal year. The current annual PAN operating budget is just under \$140,000 annually.

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 (currently operated as a “lit” network)
- 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)

**Dark Fiber Rates:** In 2002 EWEB’s Board of Commissioners approved a dark fiber lease rate methodology that included three components:

- Construction Recovery Cost Component – Recovers the cost of EWEB’s fiber optic backbone over a twenty-year period of time. This rate component applies to the lease of dark fiber in EWEB’s backbone system only.
- Capital reserve/Replacement Cost Component – Builds a reserve fund for replacement or major maintenance of the backbone system and of customer-funded fiber laterals.
- Operation & Maintenance Cost Component – Covers operations and maintenance expense in the backbone system and in customer-funded fiber laterals.

These components have been applied in combination to arrive at three different rates:

- 1) The K-12 School Rate has consisted of only the O&M component, e.g. school districts have not been required to contribute to capital recovery on the backbone system or to the capital reserve fund. It was instituted under the 4J “Light the Apple” project and was intended to provide low cost access to broadband communication capability. This rate was extended to Bethel and Springfield school districts under the BTOP grant.
- 2) The ‘Public Purpose’ Rate has consisted of the sum of the O&M and capital recovery components. This has been applied to public agency customers like the City of Eugene, Lane County, LCOG, etc.
- 3) The Commercial Rate includes all three components and applies to for profit customers using EWEB’s fiber for commercial purposes.

**Dark Fiber Lease Agreements:** The contract mechanism most commonly used by EWEB for long-term dark fiber leases (temporary ownership) are Indefeasible Right of Use (IRU) Agreements. An IRU conveys the exclusive, unrestricted and indefeasible right to use fiber for any legal purpose. IRU’s are specified in terms of a certain number of fibers over a given distance and include operating and performance specifications for the circuit. EWEB currently has IRU’s in place with PeaceHealth, Oregon Medical Group, School District 4J, Springfield Utility Board, Zayo Group, Verizon, and Light Speed Networks.

Different timing in the execution of these agreements, with varying terms and conditions, has resulted in slightly different rates for the same service. Staff recently executed two short-term (three and five year) Agreements with a commercial telecommunications carrier at a pilot market-based rate that is two times EWEB’s cost-based rate.

## *Discussion*

In 2010 the Lane Council of Governments (LCOG) received a Broadband Technology Opportunities Program (BTOP) grant, prompting them to partner with EWEB and other agencies to extend fiber optic cable to underserved areas. EWEB’s share of the grant (\$1.6 million for 25 new laterals) involved mostly schools and medical clinics/facilities. The project spanned two years and was substantially completed in January 2013.

The PAN Committee is deciding how best to address end-of-life issues for the optical multiplexing equipment, that EWEB currently maintains, as well as the changing communication requirements of the membership. The proposal is to transition away from a “lit” network to dark fiber model under which each of the members provide their own optical equipment. Under the proposal, EWEB would transfer the Executive Authority role to LCOG and would retain O&M responsibilities only for the EWEB-owned dark fiber (outside plant) that supports the PAN. EWEB would collect dark fiber revenue based on its most current rate rather than on the complex pricing model in the PAN IGA.

In 2012/13 the Electric Utility is deploying a wide area Ethernet communications network via fiber to its substations, power plants and the Water Filtration Plant. This project is consuming a significant portion of the remaining “surplus” fiber strands across the network; in fact there are a

couple of paths that no longer have spare fiber availability. Furthermore, the original seventy-mile backbone cable in the network is approaching the end of its projected service life by 2020. These projects, issues and network changes prompted EWEB management to refresh its dark fiber rates in August 2010 based on the then-current network topology, plant value/age, and O&M costs. This was done in part to provide an accurate representation of future rates to those customers proposed for connection under the BTOP grant.

### ***Summary***

- EWEB’s Telecommunications “Asset Utilization” strategy presently consists of a dark-fiber-lease only business model.
- Unused fiber is becoming scarce and in some cases is non-existent.
- Over half of EWEB’s installed fiber optic cable plant, consisting of 120 miles of backbone and 35 miles of lateral cables, is approaching the end of its service life
- Existing customer lease rates vary making them more complex to administer.
- Annual projected dark fiber revenue (post-PAN transition) is approximately \$270,000 per year.

### ***Recommendation & Requested Action***

Management recommends that the Board standardize on a common rate for public agencies, higher education institutions and medical services providers; which includes all three rate components. K-12 schools would continue to enjoy the steeply discounted (currently 80%) rate consisting of only the O&M expenses. Management further wishes to discuss with the Board their opinions regarding formal offering of a market-based commercial rate for short-term contracts.

This information is being presented for discussion only; no Board action is being requested at this time. Based upon feedback received from the Board, management will present a new rate schedule for approval at the April 2<sup>nd</sup> regular Board meeting.

Please contact Debra Smith at 685-7196 or e-mail at [debra.smith@eweb.org](mailto:debra.smith@eweb.org) to discuss this material.

Attachment 1                      Dark Fiber Service Rate Schedule (DFS-1) - Proposed



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### **Dark Fiber Service Rate Schedule (DFS-1)**

Effective: April 1, 2013

1. **Description of Service:** EWEB's Dark Fiber Service Rate Schedule (DFS-1) pertains to the available surplus fiber strands contained within EWEB's existing fiber-optic system, covering the Eugene metropolitan area and other areas within EWEB's service territory. Subscribing to EWEB's Dark Fiber Service allows the interconnecting entity to obtain an indefeasible right of use of EWEB-owned fiber strands for the purpose of transmitting voice, data and/or video signals between locations along available EWEB fiber backbone.
2. **Location:** EWEB's fiber optic cables run through right-of-way areas owned and maintained by EWEB within EWEB's service territory.
3. **Applicability:** This rate schedule applies to public agencies, higher level educational institutions and medical service providers in all service territory served by EWEB within EWEB's service territory, with the exception of any other rate that may apply under a separate agreement or rate schedule.
4. **Interconnection Specifications:** Specifications that apply to all work associated with the design and construction of fiber optic lateral extensions to establish a connection to available EWEB dark fiber strands must be reviewed and approved in advance by EWEB prior to completing the Advanced Engineering Estimate.
5. **Advanced Engineering Estimate:** All prospective EWEB Dark Fiber Service subscribers must work with EWEB to complete an Advanced Engineering Estimate. A \$500 fee is required prior to completing the Advanced Engineering Estimate. This estimate includes the hours and costs expected to be incurred by EWEB to prepare an Engineering Study for the requested lateral extension. The cost to complete the Engineering Study for lateral extension design work is to be paid upon execution of a Service Agreement. Payment for all of EWEB's associated lateral extension design and construction costs will be made to EWEB upon completion of the extension. The \$500 fee will be credited toward the actual costs of completing the Engineering Study.
6. **Service Agreement:** A signed "Indefeasible Right of Use Agreement" or an "Intergovernmental Agreement" is required by EWEB before commencing any Engineering Study for lateral extension design or subsequent construction work.
7. **Monthly Charge:** The monthly charge for Dark Fiber Service is determined by multiplying the length of the subscribed fiber strand(s) times the current monthly charge rate. The length of each fiber strand is determined from EWEB's GIS Fiber Manager Application rounded up to the nearest one-half mile length. The Dark Fiber customer shall be billed a minimum of one (1) mile length for each such fiber pair. This information will be recorded in the customer's service agreement.
8. **Current Monthly Rate\* (2013):** \$21.13 per strand-mile.

\* **Note:** The DFS-1 Rate Schedule is adjusted annually using the city of Portland's Consumer Price Index (2.86% actual in 2012).