



## MEMORANDUM

EUGENE WATER & ELECTRIC BOARD  
ELECTRIC SERVICES DIVISION

*Rely on us.*

TO: Commissioners Farmer, Brown, Cassidy, Cunningham and Ernst  
FROM: Dean Ahlsten  
DATE: September 8, 2009  
RE: Approval of 2010-2014 Electric Utility Capital Improvement Plan

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### ***Issue Statement***

Staff presented the Board with a draft update of the Electric Utility Capital Improvement Plan (CIP) at its July 21 budget workshop. Staff will be requesting final approval of the CIP at the September 15, 2009 regular Board meeting. The approved document will become the basis for the 2010 capital budget.

### ***Background***

At the July 21 workshop, staff presented a CIP that proposed an adjustment to the annual capital reserve target from \$10 million to \$7 million. The economic drivers behind this proposal were: 1) A decrease in interest earnings; 2) A reduction in customer capital contributions caused by the economic downturn in residential and commercial development; 3) Aging electric infrastructure (power transformers, EWEB-owned bridges, electric meters, etc.), and; 4) Regulatory requirements (NERC, PUC).

### ***Discussion***

Subsequent to the July 21 workshop, staff adjusted the reserve targets to attain minimum balances of \$8.0 million in 2010 and \$7.5 million thereafter. Staff arrived at these amounts by assessing lower priority capital projects in each Program, and assigning risk factors associated with deferrals or elimination.

Attachments<sup>1</sup>: Refer to Attachment A for a summary of 5-Year capital expenditures by Program and sources of funding. Refer to Attachment B for an itemization of Program

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<sup>1</sup> Attachments

Attachment A: 2010-2014 CIP Summary of Expenditures & Funds

Attachment B: 2010-2014 CIP Allocation of Expenditures by Work Category

Attachment C: July 14 Board memo titled "2010-2014 Electric Capital Improvement Plan"

expenditures by Work Category. Refer to Attachment C (July 14 Board memo on the Draft CIP) for additional detail on the project work that is drawing down reserves.

The following changes/reductions are incorporated into this version of the CIP that is being submitted for Board approval. They are organized by Program according to the degree of risk.

### Generation

#### High Risk

*Smith Falls Diversion Improvements:* The project was deferred from 2011 to 2012. The objective of the project is to divert sedimentation material away from the intake structure before it is drawn into the penstock. During the plants first twenty years of operation, this material has caused erosion/wear of the penstock liner and the Pelton turbines in the powerhouse. This led to premature replacement of runners on both large machines in 2007, after less than 20 years of operation at a cost of approximately \$2 million.

#### Moderate Risk

*Walterville Powerhouse Asbestos Siding/Roofing Replacement:* The scope of work was changed from replacement of the asbestos materials to encapsulation. As a result, any future alterations to the building “skin” would result in added cost for asbestos abatement/containment by a specialized contractor. Furthermore, the potential for human exposure to friable asbestos material would remain.

### Substation Reliability

#### Moderate Risk

*Willow Creek and Hawkins Substation 12 kV Breaker Replacements:* Deferred replacement of air-blast circuit breakers by two years. This equipment is approaching end-of-life; replacement parts are difficult to obtain; maintenance costs are escalating, and the probability of failure under operating conditions is increasing. The risk to system reliability is increasing proportionally.

#### Low Risk

*BPA Lane – Willow Creek Relay Upgrade:* Deferred the replacement of backup relay equipment and related communication systems by one year. The current protective equipment will not respond as quickly, in all cases, to isolate faults on this particular 115 kV transmission line. This increases potential for power quality related disturbances, particularly for sensitive customer processes.

### Distribution Reliability

#### Moderate Risk

*Install Underground Loop Feeds:* Reduced funding for this work in 2011 from \$800,000 to \$400,000. As radial underground cable systems age and begin to fail, it results in extended unplanned customer outages while repairs are made. Loop feeds provide a

means to isolate the faulted cable section and affect repairs while maintaining service to customers. Failure to install loop feeds will eventually affect system reliability.

### Corporate Services

#### Low Risk

*Fleet:* Reduced fleet expenditures by \$200,000 per year over the five year period. Staff is reviewing the Electric Utility fleet in an effort to reduce the size of the fleet by eliminating and/or extending the service life of underutilized vehicles.

2009 Year-End Reserve Balance: The capital reserve balance was increased from \$9.9 million to \$10.7 million after further review of 2009 capital projections. Two line trucks budgeted for 2009 are expected to arrive in January 2010, resulting in a \$500,000 carryover of funds. Furthermore, Carmen Smith licensing expenses are projected to be under budget in 2009 and these rate funded savings have been allocated to the reserve account.

Sources of Funds: Funding for the Electric CIP has not changed since the July 21 workshop. As alluded to at that time, staff plans to conduct a detailed analysis of future electric utility capital needs to maintain or improve system reliability and generator availability. The results of that analysis will be used to initiate a series of discussions with the Board concerning the adequacy of capital funding for future needs.

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

Staff recommends that the Board approve the 2010-2014 Electric Utility Capital Improvement Plan. Upon approval, Staff will finalize the 2010 Electric Utility Capital Budget.

I will be available to answer questions you have on this material at 685-7136 or [dean.ahlsten@eweb.org](mailto:dean.ahlsten@eweb.org)

**ATTACHMENT A**

<b>Proposed 2010 - 2014 Electric Capital Plan</b>						
	2010	2011	2012	2013	2014	2010-2014
<b>I. Program Estimates</b>						
Hydro Relicensing	6,883,643	14,382,000	15,316,000	28,227,000	39,790,000	104,598,643
Generation	1,951,369	1,163,100	1,445,132	600,000	2,042,902	7,202,503
Substation Reliability	4,470,713	5,917,061	3,219,720	3,442,185	3,774,413	20,824,092
Distribution Reliability	11,870,264	9,850,875	11,791,926	12,659,816	11,610,129	57,783,011
Configuration Management	128,068	125,000	125,000	125,000	-	503,068
Power Management	15,000	15,000	10,000	10,000	10,000	60,000
DSM & Retail Services	15,000	15,000	15,000	40,000	94,000	179,000
Facilities Capital Improvements	2,809,713	2,204,208	1,882,143	1,989,132	1,725,952	10,611,148
Roosevelt Building Project	39,282,159	2,120,000	-	-	-	41,402,159
Information Resource Management	1,379,650	1,217,501	911,036	987,945	953,934	5,450,066
Telecommunications Infrastructure	209,048	175,000	-	-	500,000	884,048
<b>Total Expenditures</b>	<b>69,014,627</b>	<b>37,184,746</b>	<b>34,715,957</b>	<b>48,081,077</b>	<b>60,501,330</b>	<b>249,497,737</b>
<b>II. Capital Fund Sources</b>						
Electric Rates (note 1)	15,700,000	16,171,000	16,656,130	17,155,814	17,670,488	83,353,432
Capital Reserve Balance (note 2)	10,707,391	8,000,447	7,513,891	7,530,971	7,737,342	10,707,391
Customer Contributions (note 3)	4,071,881	3,605,190	2,290,907	2,359,634	2,430,423	14,758,035
Steam Utility Payment	270,000	270,000	270,000	270,000	-	1,080,000
Carmen Smith Relicensing Dedicated Funds (note 4)	6,883,643	14,382,000	15,316,000	28,227,000	39,790,000	104,598,643
Roosevelt Project Bonds	39,282,159	2,120,000	-	-	-	40,305,000
Interest Earnings on Reserve Fund	100,000	150,000	200,000	275,000	350,000	1,075,000
<b>Total Funds</b>	<b>77,015,074</b>	<b>44,698,637</b>	<b>42,246,928</b>	<b>55,818,419</b>	<b>67,978,253</b>	<b>256,974,661</b>
<b>Cumulative Reserve Balance YE</b>	<b>8,000,447</b>	<b>7,513,891</b>	<b>7,530,971</b>	<b>7,737,342</b>	<b>7,476,924</b>	<b>7,476,924</b>

- Notes:
- 1) Beginning in 2011 electric rate funding for capital increases at the rate of depreciation on plant in service (3% per year)
  - 2) Figures reflect beginning of year balances.
  - 3) Includes customer reimbursements for residential/commercial customer work, fiber optic customer work, University Substation & T/L project, Senece Cogen, OWIN & AT&T contributions, and C/S Lic Acquisition variance
  - 4) \$1.5M per year funded from rates up to acquisition of a license. Annual expenditures in excess of \$1.5M funded from interest on C/S deferred reserve and then from the \$20M reserve equity when interest earnings are fully expended.

**ATTACHMENT B**

**2010 - 2014 "Capital Work Categories"**

2010-14categoryanalysis

		Capital Work Categories						
Programs	2010-2014 Budget	Customer / New Load	Renewal / Replace	Enhancement / Existing Facilities	Enhancement / New Growth	Regulatory / Agency Required	Efficiency Improvements	Roosevelt Project
Hydro Relicensing / Compliance	\$104,598,643	\$0	\$0	\$0	\$0	\$628,277	\$0	
Generation	\$7,202,503	\$0	\$3,049,775	\$2,322,641	\$0	\$2,330,210	\$0	
Substation Reliability	\$20,824,092	\$5,987,586	\$8,468,855	\$3,977,206	\$4,466,274	\$1,131,260	\$266,018	
Distribution Reliability	\$57,783,011	\$15,954,255	\$22,280,771	\$15,720,612	\$7,369,489	\$2,932,492	\$1,065,000	
Configuration Management	\$503,068	\$0	\$0	\$0	\$0	\$0	\$578,068	
Power Management Capital	\$60,000	\$0	\$0	\$0	\$0	\$75,000	\$0	
DSM & Retail Services	\$179,000	\$0	\$0	\$0	\$0	\$0	\$194,000	
FacilitiesCapital Improvements	\$10,611,148	\$0	\$9,895,496	\$343,966	\$0	\$551,277	\$0	\$79,587,159
Information Resource Mgmt	5,450,066	\$0	\$3,501,831	\$240,800	\$0	\$0	\$3,098,431	
Telecommunications	884,048	\$594,048	\$0	\$125,000	\$375,000	\$0	\$0	
<b>Totals</b>	<b>\$287,682,737</b>	<b>\$22,535,889</b> 7.8%	<b>\$47,196,727</b> 16.4%	<b>\$22,730,225</b> 7.9%	<b>\$12,210,763</b> 4.2%	<b>\$7,648,516</b> 2.7%	<b>\$5,201,516</b> 1.8%	<b>\$79,587,159</b> 27.7%

All Sources of Funds	
Rates	83,353,432
Starting Capital Reserve Balance	10,707,391
Customer Contributions	14,758,035
Steam System Payments	1,080,000
Relicensing Dedicated Funds	104,598,643
Telecom Bonds	-
AMR Bonds	-
Roosevelt Project Bonds	41,402,159
Harvest Wind Project Bonds	-
Interest Earnings on Reserves	1,075,000
<b>Total</b>	<b>256,974,661</b>
	-
<b>Pro Forma Surplus/Deficit (2010-14)</b>	<b>7,476,924</b>

Definitions of "Capital Work Categories"	
<i>Customer / New Load.</i>	New electric plant and modifications and replacement of existing electric plant required to directly serve new load additions.
<i>Renewals / Replacements.</i>	Replacement of obsolete or aged plant that is not capable of reliable operation consistent with performance standards.
<i>Enhancements (new growth).</i>	Additions, modifications, replacements of plant needed for new load additions and to obtain/maintain performance standards.
<i>Enhancements (existing plant).</i>	Additions, modifications, replacements of plant for benefit of existing customers to obtain/maintain performance standards.
<i>Agency Required.</i>	Additions, modifications, replacements of electric plant needed to comply with code or agency license/permit requirements.
<i>Efficiency Improvements.</i>	Additions, modifications, replacements of electric plant that increases output or results in reductions in operating costs.

## ATTACHMENT C



## MEMORANDUM

EUGENE WATER & ELECTRIC BOARD  
ELECTRIC SERVICES DIVISION

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TO: Commissioners Farmer, Brown, Cassidy, Cunningham and Ernst  
FROM: Dean Ahlsten  
DATE: July 14, 2009  
RE: 2010-2014 Electric Capital Improvement Plan

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### ***Issue Statement***

Staff is performing its annual update of the Electric Division 5-year Capital Improvement Plan (CIP). At the July 21 Financial/Budget Workshop, I intend to present an overview of the 2010-2014 CIP for Board review and discussion.<sup>1</sup> Staff will be requesting formal approval of the CIP at the September 15 Board meeting.

### ***Background***

At its May 5, 2009 meeting, in accordance with financial policy EL-1, the Board approved Budget Amendments 3 and 4 and a modification to the 2009-13 CIP (Attachment A). Subsequently, Program Managers reviewed current and emerging capital requirements and revised the 5-year Plan accordingly.

At its July 24, 2007 financial retreat the Board instructed staff to manage the CIP in order to maintain \$10 million in reserve throughout the course of the 5-year Plan. Performance against this target is shown in the proposed Summary of Expenditures & Funds (Attachment B).

### ***Discussion***

A number of factors have combined to negatively impact capital reserves.

- 1) Economic Conditions: Projected interest earnings on reserves have been reduced (\$500,000).

The reduction in residential and commercial development during the 2009-2011

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<sup>1</sup> This memorandum includes the following attachments

1. Attachment A. Revised 2009-2013 CIP Summary of Expenditures & Funds (Approved May 5, 2009)
2. Attachment B. 2010-2014 CIP Summary of Expenditures & Funds (Proposed)
3. Attachment C. 2010-2014 CIP Allocation of Expenditures by Work Category

## ATTACHMENT C

timeframe has resulted in loss of customer contributions to capital (\$4 million). These contributions fund one line crew on average. These resources are being diverted to compliance work in lieu of new construction.

- 2) Renewable Resource Acquisitions: Integration of the Seneca Sustainable, LLC co-generation facility accelerated the construction of a one-mile segment of the planned Lane-Irvington 115 kV transmission line (\$750,000)
- 3) Aging Infrastructure: EWEB experienced the failure of a 20 MVA substation power transformer in March 2009. Furthermore, recent results of annual oil testing performed on EWEB transformers indicate that six other units are showing signs of internal heating/deterioration. One of the six appears to be approaching imminent failure and it has been scheduled for removal and replacement. The remaining five transformers are on a “watch list” and may deteriorate to the point of replacement within the next 5 years. Two 33 MVA transformers (for Bethel & Seneca Substation) have been programmed into the CIP (\$1.9 million).
- 4) EWEB Bridge Replacements: EWEB’s Hurd Bridge, on the Leaburg Canal, is approaching a point of deterioration at which point it will require de-rating. It has been scheduled for replacement in 2012 (\$1 million).
- 5) Regulatory Compliance Impacts: NERC Standards require that provisions be made for continued system operations in the event the primary control center is not functional (T&D dispatch and power trading operations). A backup control center, assumed to be located at the Roosevelt Operations Center, has been added in 2013 (\$1.5 million).
- 6) Meter replacements: In conjunction with the deferral of the Advanced Metering Infrastructure (AMI) project, funding was added for replacement/upkeep of existing commercial metering plant (\$875,000).

Other additions were made for emergent priorities, and numerous projects were deferred in kind. However, the overall net affect of the revisions to the CIP is a drawdown on reserves by approximately \$3 million. On a planning basis, staff anticipates a 2009 year-end capital cash reserve balance of \$9.9 million, which includes carryover of unspent funds and interest earnings.

Rate funding for capital has been fixed at \$15.7 million per year, for the past five years, following the 5.7% rate increase for capital in 2004. Beginning in 2011, the \$15.7 million escalates by 3% per year. However, given the mounting backlog of renewal/replacement work, driven by aging system infrastructure, and increasing compliance obligations, Staff proposes to reassess capital funding levels over the next year to determine if they are adequate.

Proposed 5-year capital expenditures are summarized below according to “Work Category” types. The percentages reflect expenses in each category as a percentage of total capital funds available. Attachment C provides an greater detail of expenditures by category.

## ATTACHMENT C

<u>Work Category</u>	<u>5-Year Expenditures</u>	<u>% of Total Funds</u>
Customer / New Load	\$ 17,647,000	6.6%
Renewal / Replacements	\$ 42,180,000	15.7%
Enhancements / Existing Facilities	\$ 21,856,000	8.2%
Enhancements / New Growth	\$ 9,332,000	9.9%
Regulatory / Agency Required	\$131,747,000	49.2%
Efficiency Improvements	\$ 4,904,000	1.8%
Roosevelt Building Project	\$ 40,305,000	15%

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

The CIP is being presented for information and discussion. No action is being requested. Based on Board feedback, staff will finalize the CIP and seek approval at the September 15 Board meeting, after which the CIP will be utilized to develop the 2010 capital budget.

Please contact me by phone at 341-1830 or e-mail at [dean.ahlsten@eweb.org](mailto:dean.ahlsten@eweb.org) if you would like to discuss any of this material.

### Attachments

c: Randy Berggren  
Jim Wiley  
Jim Origliosso  
Patty Boyle