

## Seattle City Light Current Efficiencies/Improvements 2004-2011

TYPE OF EFFICIENCY	AMOUNT REALIZED/ AVOIDED COSTS	FREQUENCY
<b>Transmission/Distribution</b>	\$12 M	
Underground cable injection	\$8,000,000 – Completed 20 miles of cable injection in 2010	\$16 million in 2010 and 2011
Four-year tree trimming cycle. Increased tree trimming annually from 25 miles in 2006 to 600 miles in 2011. Avoided costs from responding to outages, and for customers, improved reliability.	Reduced tree related outages by up to 50%; savings to be estimated.	Annually
Work and Asset Management (Implemented the 1st Phase of WAMS System, identifying most critical assets and prioritizing work.) WAMS will provide higher reliability and lower cost of maintaining City Light's infrastructure when fully implemented. Projected to save ~\$30M over 15 years.	Assume \$1 million for 2011 based on June implementation date.	Assume \$2 million annually.
Move to enhanced Remote Terminal Units–Broad Substation (consistent with gradual move towards a smarter grid). \$1 Million per substation in avoided capital costs compared to older technology implementation	\$2 Million per year based on 2 substations annually	Savings for 2 substations annually. (20 substations in total)
Pole Replacement Program. Inspected all 108,000 poles and began programmatic pole replacement program. Saves money over emergency replacement of failed poles.	\$1 million in avoided costs  50% cost reduction per pole by implementing systematic replacement of priority poles.	Annually - Started in 2011
<b>Environment and Conservation</b>	\$13.2 M	
41,000 LEDs installed by 2014 (6,000 LEDs installed in 2010). ~ \$2.4 million in savings	Savings of ~\$900,000 In 2011	~ \$2.4 million in savings annually once all are installed
Reduced cost of lamp heads for streetlights	~ \$5 million	2011 cost savings
Renewable Energy Strategy – Presented stepped-in renewable energy strategy to Council. Avoided costs are compared to steady, early acquisition approach with current resource and Renewable Energy Credit (REC) prices. Savings: 2011 to 2016 - \$44 Million. Beyond 2016 –	\$7.3 million - average annual avoided cost	Annually

greater than \$11 Million annually		
<b>Generation/Power Supply</b>	\$9.8 M	
Generator Rewind and Turbine Runner Replacement Program. - Improves efficiency and extends the life of City Light's 20 generators between 40-50 years.	\$1.3 Million increased revenue – assumes 0.5% efficiency increase that adds 40,000 MWh annually under average water.	Annually
Reorganization of operations at the Skagit and Boundary projects for improved efficiency	Over \$500,000	Annually
Executed 17 Year-BPA Contract. Secured 530 aMW annually of low cost power through 2028.	Avoided costs \$8 Million in 2012 \$232 Million over 17 year contract term (NPV \$2011)	New contract started during 2011. Figure represents annualized savings for entire year
<b>Human Resources/Safety</b>	\$3.4 M	
Safety Incident reduction. Recordable safety incidents decreased from 13.1 in 2003 to 8.8 in 2010.	\$574,000	Annually
Further reduction in worker's compensation costs (Grass Roots Safety Initiative for 2011. Reduced time loss and worker's compensation claims by 17.5%)	\$700,000	2011
Hiring Staff- Developed staffing plan to identify critical needs and reduced hiring cycle time from 4 months to target of 45 days	\$910,000 in improved productivity	Annually
Apprenticeship Program: 152 apprentices hired since 2004 to replace skilled trades	\$1.25 million in lower costs for apprentice level pay (offset by assumed slightly lower productivity)	2011 – 14 apprentices 2012 – 6 apprentices
<b>Customer Service</b>	\$720,000	
Four-year streetlight re-lamping cycle (replace lamps in a cycle rather than waiting for individual failures. Improves service and reduces costs)	\$380,000	Annually
Streetlight repair process improvements-brought repair time down from 64 calendar days to 10 business days.	\$50,000 and increased customer service	Annually
Outage Management System. Customer outages restored faster—savings to customers from improved reliability. Projected to save ~ \$552,000 over 6 years	\$92K for 2011	Commenced project in 2007, implemented in 2010.
Customer Electrical Service Improvement Project (CESIP). Improved customer service by reducing hookup time by over 40% and	53% timeline reduction for non-engineered hookups	Commenced project in 2006 and completed in 2009

less staff time required through improved process	21% timeline reduction for engineered hookups	
Customer Communications - website, Electronic Billing, Mobile Applications . Upgraded billing system in 2006 (permits electronic billing & other functions). Improved customer website and launched mobile application for customers in 2011.	\$200,000	Annually
<b>Infrastructure</b>	<b>\$700,000</b>	
NERC Compliance--Established NERC Compliance Office in 2008 to address new NERC standards issued in 2007. New compliance practices could avoid fines of up to millions of dollars.	Avoided fines.	Annually
Security and Emergency Preparedness-- Established Departmental Operations Center, Trouble Center, Backup System Control Center, Incident Management Center and enhanced security controls to reduce risk to assets and personnel	Avoided losses to assets and personnel	Annually
Enhanced current diversion enforcement program (addressed theft/loss of power)	\$700,000	2011
<b>Financial</b>	<b>\$13.3 M</b>	
Established \$100M Rate Stabilization Account to mitigate rate changes and provide continuity of customer service in years with poor net wholesale revenue due to low prices or water	Stabilizes rates and avoids disruptions to customer service	Annually
Refinanced \$672 million of debt in 2010 and 2011 to save \$67 million in interest costs	\$2.7 million in annualized savings	Over 2010-2012
Sales of renewable energy credits	\$2.1 million	Annually
Surplus property sales	\$306,000	2011
Sale of excess long-term transmission capacity (3 <sup>rd</sup> A/C)	\$1.9 million	Annually <i>no</i>
Sale of excess short term transmission capacity	\$1.4 million	Annually <i>no</i>
Maximized value of SCL contracted energy resources, increasing value to SCL of energy entitlement by \$1.3 million per year compared to 2011 for 2012-13.	\$1.3 million	Annually
Financial Policies - Reduced debt to capitalization ratio, resulting in credit rating improvements. Upgraded credit rating from A/Aa3 (S&P and Moody's) in 2004 to AA-/Aa2 (S&P and Moody's) in Q4 2008.	\$3 million – Avoided higher interest costs with single A rating (assumed on all debt outstanding)	Annually, after 3 years of typical issuances
Eliminating flat rate billings	\$50,000	Annually

Risk Policies- Established in 2004, formal Risk Policy approved by Council in 2008. Lower Risk for Utility, helps avoid losses such as 2001 energy crisis, where Utility had to spend \$600 million to procure power due to inadequate risk practices.	Avoids potential losses in tens of millions dollars range.	Ongoing
Implemented Energy Trading & Risk Management System in 2011	\$150,000	Annually
Inventory reduction (Avoided carrying cost of \$8 million of inventory)	\$400,000	Annually
Rental property lease revisions-bringing to market rates	\$22,000	Annually
<b>TOTAL Annual Savings Estimate</b>	<b>\$53.2 million</b>	