

## Overview

Seattle City Light (City Light) is a municipal electric utility, owned by the residents of Seattle and run by the City's elected officials. The Utility serves a population of almost 700,000 people living in a 130 square-mile area, which includes the City of Seattle and several adjoining jurisdictions. To serve these customers, City Light owns, maintains, and operates a multi-billion-dollar physical plant. The physical plant includes:

- ◆ A power supply generation system consisting of seven hydroelectric plants on the Pend Oreille (Boundary Dam), Skagit, Cedar, and Tolt Rivers with a combined capacity of almost 2,000 megawatts;
- ◆ 650 miles of high-voltage transmission lines linking these plants to Seattle;
- ◆ A distribution system with 14 major substations and more than 2,500 miles of overhead and underground cable;
- ◆ A state-of-the-art System Control Center coordinating these activities; and
- ◆ Billing and metering equipment tracking approximately 395,000 accounts.

City Light's Capital Improvement Program (CIP) is the vehicle for maintaining, upgrading, and expanding this infrastructure. The CIP also funds a variety of safety improvements, mitigation activities, and licensing requirements. The CIP's overriding goal is to ensure that the facilities required to serve City Light customers with low-cost, reliable power, are in place when and where the power is requested. In 2009 and 2010, City Light received significantly less net wholesale revenue than anticipated due to lower precipitation levels and falling energy prices for the Utility's surplus power. This revenue shortfall required City Light to reduce spending on planned maintenance and capital improvement projects. In response to the revenue shortfall, the City Council and the Mayor undertook a series of actions to help strengthen oversight and the financial management of the Utility. The Rate Stabilization Account was created to protect against future fluctuations in wholesale revenues, the City Light Review Panel was established to advise elected officials on rate and Utility issues, and City Light was directed to develop a Strategic Plan with input from the Review Panel and the public

In July 2012, City Council adopted the City Light 2013-2018 Strategic Plan, which identified capital projects and spending priorities for the Utility (Resolution 31838). The Strategic Plan was used to guide development of City Light's 2013-2014 Proposed Budget and 2013-2018 Proposed CIP, and is available on-line at: <http://clerk.ci.seattle.wa.us/~ordpics/31383AttA.pdf>.

## 2013-2018 CIP

The Strategic Plan identified baseline capital expenditures and developed strategic initiatives for replacing aging infrastructure, automating electrical system control, and leveraging new technology to meet the expectations of City Light customers. The Strategic Plan also identified projects to address regional transmission congestion and regulatory requirements to improve the security and reliability of the transmission grid. These investments are included in the 2013-2018 Proposed CIP and have been summarized into functional categories so that similar or related projects can be easily identified and viewed together. This document details changes from the 2012-2017 Adopted CIP, and provides a breakdown of project allocations to match the appropriations for CIP Budget Control Levels in the 2013-2014 Proposed Budget.

The 2013-2018 Proposed CIP outlines \$1.9 billion in capital spending over six years for a variety of power supply, transmission, distribution, customer services, and central utility needs. Approximately \$190 million of this spending is in response to external projects, including suburban undergrounding

## 2013-2018 Proposed Capital Improvement Program

requests, maintenance of the streetlight system, infrastructure relocations due to transportation projects, and other reimbursable customer-requested work.

City Light monitors and refines CIP project spending plans throughout the year, and reports progress to the Mayor and City Council quarterly. Any significant project changes are submitted for Council approval through the Quarterly Supplemental budget process.

### CIP Revenue Sources

Funding for City Light's CIP comes primarily from retail electricity sales and surplus energy sales on the wholesale market. A minor amount of additional revenue come from direct customer billing (including service connections and other customer requested work) and assorted fees, grants and transactions. City Light also finances a portion of the CIP through the sale of revenue bonds. City Light's policy is to limit debt financing to 60% of any given six-year CIP period (Resolution 31187).

### Thematic Priorities and Project Selection

Projects included in the CIP meet a variety of thematic needs:

- ◆ **Maintain existing infrastructure and support basic operations** – The majority of City Light's CIP projects provide for the maintenance and upkeep of existing systems and equipment, and support the on-going daily operations of the Utility. These projects include major maintenance work to extend the life of facilities and equipment, scheduled replacement of old and failing equipment, and capital programs to support customer connections and repair unexpected system outages. Projects are also included in the CIP to respond to external conditions, such as infrastructure relocations due to major transportation projects. The CIP includes new projects to implement Strategic Plan initiatives to renovate streetlights and underground cables.
- ◆ **Upgrade capacity and services to provide new functionality** – Projects proposed in the CIP may also seek to increase the Utility's generation or distribution capacity, or provide new functionality for the management and customer service systems of the Utility. These projects strive to change the way the Utility operates and delivers service. The CIP includes continued funding for projects such as the Work and Asset Management System, the Customer Information System, and the Energy Management System. In addition, new projects identified by the Strategic Plan are proposed, including the Denny Substation and investments in Automated Metering Infrastructure.
- ◆ **Address licensing, regulatory and safety requirements** – Federal licenses governing the operation of the Utility's dams require a number of environmental, historic preservation, and recreation mitigation measures. In addition, federal requirements regulating the transmission grid and energy market transactions require system upgrades and improvements. The CIP also includes projects to improve safety and proactively reduce risk to the Utility's infrastructure. The CIP implements Strategic Plan initiatives addressing transmission grid improvements and regulatory compliance.
- ◆ **Maintain information technology systems** – Over the last several decades, the electric utility industry has come to rely heavily on information technology systems to provide real time management and automation of operations, design and record utility systems and assets, regulate power across the regional transmission grid, manage financial transactions on the energy market, and increase business efficiencies throughout the organization. The CIP includes projects to maintain the hardware and software necessary to provide these functions. The CIP also implements Strategic Plan initiatives to improve cyber security and disaster recovery.

Project ideas are generated from staff throughout the organization and are developed into proposals by the operational divisions of the Utility. Each of the Utility’s organizational lines of business (power supply, transmission and distribution, customer service) prioritizes proposed capital spending within their divisions and submits recommended projects to a centralized capital budgeting system.

City Light management compares proposals against criteria that evaluate the projects’ costs, benefits, and risks. The Utility gives priority to mandatory requirements and projects currently underway, before considering scheduled future projects and new initiatives. Business cases are developed and revised to document the projects’ expectations and rationale, and include a cost benefit analysis of alternatives, including the do-nothing scenario.

The Utility’s CIP is constrained by the availability of funding and labor resources to devote to capital projects. City Light management seeks to balance the overall needs of the Utility within these constraints and may rescope, reschedule, or defer projects to prepare a comprehensive six-year CIP. The Strategic Planning process provides a venue for vetting major capital spending decisions with elected officials and the public. City Light intends to revisit the Strategic Plan every two years to maintain transparency and set direction for future CIP development.

Recent investments in Utility systems will help identify and evaluate future capital proposals. The Work and Asset Management System (WAMS) provides the platform for tracking City Light’s estimated 900,000 assets, as well as generating the associated work orders and maintenance records of the Utility. WAMS was first implemented for distribution operations and engineering groups in 2011, and will be expanded to cover substation operations and power supply assets by Spring 2013. The Utility has prepared a Distribution Outlook report and is expanding this review to include transmission and substation assets.

Tracking asset information will allow the Utility to achieve operational efficiencies, improve maintenance practices on assets, and identify equipment where there is a high risk of failure. Data in WAMS will be used to develop strategic asset management plans for each asset type (generation equipment, large power transformers, substation circuit breakers, poles, underground distribution systems, etc.) and will inform operational/maintenance practices and capital replacement decisions. Through the asset management program, the Utility has conducted condition assessments on 115,000 poles and 28 power transformers, has surveyed 527 miles of overhead transmission lines, and has adjusted the CIP based on the results.

## CIP Expenditures by Major Category

Projects and spending in City Light’s 2013-2018 Proposed CIP are summarized below. The dollar amounts shown in this document are the projects’ total costs to be capitalized, and include both direct costs and associated overhead costs.

	Summary of CIP Project Allocations (in \$1,000s)						
	2013	2014	2015	2016	2017	2018	Total
<b>Power Supply</b>	<b>62,455</b>	<b>56,089</b>	<b>88,360</b>	<b>88,030</b>	<b>67,109</b>	<b>79,473</b>	<b>441,516</b>
Boundary	37,223	25,577	57,202	65,464	47,841	65,078	298,385
Skagit	17,562	22,205	21,184	15,976	11,321	9,269	97,517
Cedar Falls - Tolt	1,710	1,786	3,678	1,644	4,535	1,751	395,902
Power Supply Other	5,960	6,521	6,296	4,946	3,412	3,375	30,510
<b>Transmission</b>	<b>4,724</b>	<b>4,066</b>	<b>12,271</b>	<b>22,793</b>	<b>16,358</b>	<b>16,210</b>	<b>76,422</b>
<b>Distribution</b>	<b>132,211</b>	<b>150,128</b>	<b>205,913</b>	<b>195,351</b>	<b>167,892</b>	<b>136,831</b>	<b>988,326</b>
Substations	19,622	35,026	51,225	29,132	24,020	20,655	179,680

### 2013-2018 Proposed Capital Improvement Program

## Seattle City Light

### Summary of CIP Project Allocations (in \$1,000s)

	2013	2014	2015	2016	2017	2018	Total
Network	18,020	21,479	32,232	43,733	23,919	18,877	158,260
Radial	46,243	49,213	51,716	53,847	51,797	52,967	337,940
Service Connections	32,987	33,956	62,735	61,359	61,929	37,731	290,697
Distribution Other	15,339	10,454	8,005	7,280	6,227	6,601	53,906
<b>External Projects</b>	<b>31,211</b>	<b>45,149</b>	<b>47,373</b>	<b>26,289</b>	<b>24,672</b>	<b>25,247</b>	<b>199,941</b>
Local Jurisdictions	16,865	14,496	12,950	13,346	13,680	14,022	85,359
Transportation	14,299	30,615	34,384	12,903	10,923	11,154	114,278
Customer Other	47	38	39	40	69	71	199,637
<b>Central Utility Projects</b>	<b>52,133</b>	<b>43,789</b>	<b>27,405</b>	<b>23,890</b>	<b>16,256</b>	<b>15,729</b>	<b>179,202</b>
Customer and Billing	16,362	4,004	956	0	0	0	21,322
Finance and IT	9,779	17,500	13,884	11,517	5,317	4,509	62,506
Fleets and Facilities	25,992	22,285	12,565	12,373	10,939	11,220	83,828
<b>Totals:</b>	<b>282,734</b>	<b>299,221</b>	<b>381,322</b>	<b>356,353</b>	<b>292,287</b>	<b>273,490</b>	<b>1,885,407</b>

A more detailed description and summary of each category follows. *In addition, projects are highlighted if their 2013 allocations are more than \$5 million, have changed by more than \$1 million relative to the amount planned for 2013 in the 2012-2017 Adopted CIP, or are new projects in this year's 2013-2018 Proposed CIP.*

**Power Supply:** Projects in this category include improvements to City Light's dams, generators, powerhouses, and other related projects. Projects to comply with federal licensing and environmental mitigation requirements at City Light's dams are also included in this category. City Light sequences work on major power production equipment (i.e., generator rebuilds and runner replacements) to reduce the impact to power generation and level capital spending. The Utility maintains 22 generators in seven power plants that are managed as three separate facilities. The Boundary Facility generates 1,051 megawatts, the Skagit Facility (comprising the Newhalem, Gorge, Diablo, and Ross power plants) generates 823 megawatts, and the Cedar Falls – Tolt Facility generates 47 megawatts.

The 2013-2018 Proposed CIP shows significantly increased spending in Power Supply over the next six years to meet federal relicensing requirements for Boundary Dam. City Light anticipates a new 50-year federal license to operate the facility, and will be required to implement a number of mitigation measures. Boundary Dam provides approximately 40% of the Utility's power needs.

For 2013, the CIP includes \$63.5 million in funding for 62 projects in Power Supply. *Highlights include:*

- ◆ Boundary – Licensing Mitigation (6987): \$16.2 million in 2013 allocations. This project shows a \$15.2 million increase in 2013 allocations from the 2012-2017 Adopted CIP. This reflects a change in accounting practices to capitalize eligible environmental remediation expenses for this project. In addition, the Boundary Dam – Forebay Recreation Area Improvements (6345) and the Boundary Dam – Tailrace Recreation Area Improvements (6346) have been consolidated as related licensing mitigation projects. The allocation increase does not reflect any fundamental change in licensing requirements.

- ◆ Boundary – New Unit – 57 (6533): \$0 in 2013 allocations. This is a new project in the 2013-2018 Proposed CIP to develop a new hydro-generator at Boundary Dam. The project requires significant lead-time, and significant construction expense is not anticipated until 2017 and 2018.
- ◆ Boundary Facility – Minor Improvements Program (6401): \$2.5 million in 2013 allocations. This project shows a \$1.9 million increase in 2013 allocations from the 2012-2017 Adopted CIP. The increased funding supports emergent needs, including sluice walkway maintenance, cavitation riser repair, sump pump upgrades, and other small capital projects,
- ◆ Boundary Powerhouse – Transformer Bank Rockfall Mitigation (6485): \$1.3 million in 2013 allocations. This project shows a \$16.3 million decrease in 2013 allocations from the 2012-2017 Adopted CIP. This reflects schedule changes for additional design that delays major construction until 2015, but does not reflect any fundamental change in project scope.
- ◆ Boundary Powerhouse – Unit 53 Generator Rebuild (6352): \$0 in 2013 allocations.
- ◆ Boundary Powerhouse – Unit 55 Generator Rebuild (6303): \$2.8 million in 2013 allocations.
- ◆ Boundary Powerhouse – Unit 56 Generator Rebuild (6354): \$2.2 million in 2013 allocations.
- ◆ Diablo Powerhouse – Rebuild Generator Unit 31 (6422): \$485,000 in 2013 allocations. These generator rebuild projects have been rescheduled to account for available engineering and project management resources over the next 6 years. City Light continually monitors these generators and may further revise schedules to address emerging needs. Project 6352 was decreased by \$7.7 million; project 6303 was increased by \$1.2 million; project 6354 was increased by \$1.5 million; and project 6422 was decreased by \$7.8 million.
- ◆ Boundary Seal Ring and Bushing Improvements (6525): \$2.1 million in 2013 allocations. This project was created in the 2012 First Quarter Supplemental Budget Ordinance. The project rehabilitates seal rings and bushings showing excessive wear in turbine runners. The project shows a \$420,000 reduction in 2013 allocations.
- ◆ Diablo Load Interrupters Replacement (6532): \$3.3 million in 2013 allocations. This is a new project in the 2013-2018 Proposed CIP with \$3.4 million in total project allocations. This project replaces aging 230 kV load interrupters that protect transformer banks at the Diablo Facility.
- ◆ Gorge Powerhouse – Fire Protection Improvements (8326): \$0 in 2013 allocations.
- ◆ Ross Powerhouse – Fire Protection System Modification (6166): \$194,000 in 2013 allocations. These projects have been reinstated in the 2013-2018 Proposed CIP to provide water-spray fire suppression systems at Skagit generators. Project 8326 has \$586,000 in total project allocations and project 6166 has \$194,000 in total project allocations.
- ◆ Ross Rock Slide Area Improvements (6516): \$2.4 million in 2013 allocations. This project shows a \$2.1 million increase in 2013 allocations from the 2012-2017 Adopted CIP. Construction bids for this project were higher than anticipated and the project requires more extensive blasting and rock removal to stabilize the area. This increased scope has extended the schedule for this project.
- ◆ Skagit – Facilities Energy Conservation Program (6515): \$2.1 million in 2013 allocations. This project shows a \$2.1 million increase in 2013 allocations from the 2012-2017 Adopted CIP. This increase reflects higher than anticipated construction bids for the project, which has deferred completion of the work into 2013.
- ◆ Skagit Facility – Minor Improvements Program (6405): \$4.4 million in 2013 allocations. This project shows a \$3.5 million increase in 2013 allocations from the 2012-2017 Adopted CIP. This project has expanded to include minor improvement programs previously listed individually for the three Skagit Facilities (Gorge, Ross, Diablo). The increase also reflects new small capital projects, including boat facility improvements, load interrupter improvements, and CCTV security projects.

- ◆ Cedar Falls – Masonry Dam Stream Flow System Retrofit (6534): \$0 in 2013 allocations. This is a new project in the 2013-2018 Proposed CIP with \$160,000 in total project allocations. The project replaces aging water flow sensors at the Masonry Dam.
- ◆ Cedar Falls – New Generator 5/6 Exciters (6531): \$0 in 2013 allocations. This is a new project in the 2013-2018 Proposed CIP with \$333,000 in total project allocations. The project replaces the aging excitation system at Cedar Falls to meet regional reliability standards.
- ◆ Cedar Falls Powerhouse – Penstock Stabilization (6358): \$132,000 in 2013 allocations. This project shows a \$3.0 million decrease in 2013 allocations from the 2012-2017 Adopted CIP. This project provides seismic upgrades and repairs to the Cedar Falls penstocks that deliver water to the generators. A detailed risk assessment of the project identified acceptable safeguards that allow this project to be deferred until 2017, or longer if necessary.
- ◆ Cedar Falls Powerhouse – Unit 5/6 Generator Protective Relay (6450): \$471,000 in 2013 allocations. This is a new project in the 2013-2018 Proposed CIP with \$538,000 of total project allocations. The project protects the Cedar Falls generators from abnormal changes in frequency and voltage in compliance with regional reliability standards.
- ◆ Hydro Project Spill Containment (6530): \$306,000 in 2013 allocations. This is a new project in the 2013-2018 Proposed CIP with \$4.8 million in total project allocations. This project implements oil spill prevention and response improvements at the Utility's powerhouses. The project will reduce the impact of accidental oil spills from power operations and reduce the Utility's environmental liability.

**Transmission:** Projects in this category include transmission capacity and reliability projects to deliver power from City Light's dams to City Light's distribution system and connections to the regional power grid. City Light owns and maintains 650 miles of transmission capacity that connect the Skagit Facilities to Seattle. City Light leases additional transmission capacity to connect to the Boundary, Cedar Falls, and Tolt Facilities.

For 2013, the CIP includes \$4.7 million in funding for six projects in Transmission. **Highlights include:**

- ◆ Transmission Line Inductor Installation (8461): \$227,000 in 2013 allocations.
- ◆ Transmission Line Reconductoring (8462): \$217,000 in 2013 allocations. These are new projects in the 2013-2018 Proposed CIP to relieve power congestion and improve reliability for the Puget Sound Area Northern Intertie. The projects are part of a regional solution in conjunction with the Bonneville Power Administration and Puget Sound Energy. Project 8461 has \$13.7 million in total project allocations and project 8462 has \$6.3 million in total project allocations.
- ◆ Transmission Reliability (7104): \$3.5 million in 2013 allocations. This project shows an increase of \$1.1 million in 2013 allocations from the 2012-2017 Adopted CIP. The project supports the Utility's efforts to meet NERC reliability requirements.
- ◆ Denny Substation Transmission Lines (7125): \$121,000 in 2013 allocations. This is a new project in the 2013-2018 Proposed CIP to design and construct transmission lines to the new Denny Substation.

**Distribution:** Projects in this category include improvements to City Light's distribution substations, relays, feeders, network distribution systems, overhead and underground radial distribution systems, service connections, customer meters, and other projects related to the distribution system. The 2013-2018 Proposed CIP shows significantly increased spending over the next six years in support of Strategic Plan initiatives. Three major drivers include Denny Substation Development (7757), Denny Substation – Network (8404), and Advanced Metering Infrastructure (8426).

The Denny Substation will be the Utility's first major substation capacity investment in 30 years. It provides redundancy to feed power to the existing distribution system, and allows for development of a distribution network to support the growth of economic activity in South Lake Union. The Utility also proposes to begin deployment of Advanced Metering (Smart Meters) beginning in 2015. This deployment schedule allows City Light to fully plan for the transition, provide customer education in advance of the project, and ensure that the necessary communication and data systems are in place to implement the project.

For 2013, the CIP includes \$132.3 million in funding for 66 projects in Distribution. **Highlights include:**

- ◆ Bothell Substation – Transformer Replacements (7812): \$0 in 2013 allocations. This is a new project in the 2013-2018 Proposed CIP, with projected spending in 2017-2018. This project need was identified based on condition assessments of transformers performed by City Light's Asset Management program.
- ◆ Denny Substation Development (7757): \$2.0 million in 2013 allocations. This project shows an additional \$2.0 million in 2013 allocations from the 2012-2017 Adopted CIP. Budget provisos on this project were lifted by Ordinance 123835, and additional funding has been included to design and build the Denny Substation.
- ◆ Relaying Improvements (7753): \$2.9 million in 2013 allocations. This project shows a reduction of \$2.6 million in 2013 allocations from the 2012-2017 Adopted CIP. This reflects a shift in distribution system priorities to transformer replacements. Some work was shifted to future years.
- ◆ Substation Automation (8424): \$1.0 million in 2013 allocations. This project shows a reduction of \$3.2 million in 2013 allocations from the 2012-2017 Adopted CIP. Project funding has been reduced to account for emerging technologies and anticipated labor efficiencies. Cost estimates for 2015 and beyond may need to be revised based on implementation experience.
- ◆ Substation Equipment Improvements (7752): \$4.2 million in 2013 allocations. This project shows a reduction of \$2.6 million in 2013 allocations from the 2012-2017 Adopted CIP. This reflects a shift in distribution system priorities to transformer replacements and other substation projects. Some work was shifted to future years.
- ◆ Broad Street Substation – Network (8203): \$4.4 million in 2013 allocations. This project shows a \$2.5 million increase in 2013 allocations from the 2012-2017 Adopted CIP. This increase supports recent development and economic growth in the Denny Triangle. Some of this increased power load may shift to the new Denny substation in the future.
- ◆ Denny Substation – Network (8404): \$2.5 million in 2013 allocations. This is a new project in the 2013-2018 Proposed CIP. The project designs and builds a distribution network for the South Lake Union area, served by the new Denny Substation.
- ◆ University Substation – Network (8464): \$371,000 in 2013 allocations. This is a new project in the 2013-2018 Proposed CIP. This project will track network improvements in the University District, in anticipation of potential future University of Washington expansion plans. Previously, University District network costs were combined with First Hill network costs in project 8301.
- ◆ Automated Utility Design Implementation (9950): \$1.1 million in 2013 allocations. This project shows an increase of \$1.1 million in 2013 allocations from the 2012-2017 Adopted CIP. This reflects a delay in project implementation, which was originally scheduled for 2011. Cost estimates have increased to account for internal engineering and IT labor resources necessary to implement the project.
- ◆ Mobile Workforce Implementation (8429): \$0 in 2013 allocations. This project shows a reduction of \$1.1 million in 2013 allocations from the 2012-2017 Adopted CIP. This reflects a

delay in project implementation until 2015. The delay will allow for better coordination with the new customer billing and information systems and the Advanced Metering Infrastructure project.

- ◆ PCB Transformer Replacement (8463): \$305,000 in 2013 allocations. This is a new on-going project in the 2013-2018 Proposed CIP to remove transformers containing PCBs from the Utility's distribution system. This project will reduce the Utility's environmental liability.
- ◆ Overhead Equipment Replacements (8351): \$9.2 million in 2013 allocations.
- ◆ Wood Pole Replacement Program (8371): \$9.8 million in 2013 allocations.  
These projects provide funding for replacing poles and associated overhead distribution equipment. The increased funding reflects trends in higher spending for replacement of aging equipment and acceleration of the wood pole replacement program based on condition surveys. Project 8351 has been increased by \$1.8 million, and project 8371 has been increased by \$2.8 million.
- ◆ Advanced Metering Infrastructure (8426): \$0 in 2013 allocations. This is a new project in the 2013-2018 Proposed CIP, with project spending anticipated to begin in 2015. The project will design and implement conversion of City Light's mechanical meters to modern digital meters.
- ◆ Customer Portal Development (9944): \$870,000 in 2013 allocations. This is a new project in the 2013-2018 Proposed CIP with \$1.8 million in total project allocations. This project will allow for on-line bill payment and other customer service improvements, and leverage the city-wide web-content management system.
- ◆ Large Overhead and Underground Services (8365): \$2.6 million in 2013 allocations
- ◆ Medium Overhead and Underground Services (8366): \$6.8 million in 2013 allocations.
- ◆ Small Overhead and Underground Services (8367): \$5.5 million in 2013 allocations
- ◆ Network Additions and Services: Denny (8405): \$129,000 in 2013 allocations.
- ◆ Network Additions and Services: Broad Street Substation (8363): \$6.7 million in 2013 allocations.
- ◆ Network Additions and Services: First Hill, Mass, Union & University (8363): \$2.2 million in 2013 allocations.
- ◆ Meter Additions (8054): \$4.4 million in 2013 allocations.  
These projects respond to customer requests for service connections and meters. Project funding is based on revised forecasts of customer activity and available staffing. Project 8365 was reduced by \$1.3 million; Project 8366 was reduced by \$1.9 million; Project 8367 was reduced by \$638,000; Project 8405 is a new project for network connections to the Denny Substation; Project 8363 was increased by \$1.0 million; Project 8363 was reduced by \$2.5 million; and Project 8054 was decreased by \$3.8 million.
- ◆ Federal and Regional Reliability Standards Compliance (9963): \$783,000 in 2013 allocations. This is a new project in the 2013-2018 Proposed CIP with \$783,000 in total project allocations. The project will develop and implement a compliance tracking system to document the Utility's adherence to federal and regional reliability standards.

**External Projects:** Projects in this category respond to requests from local jurisdictions to relocate distribution services from overhead to underground systems per the terms of franchise agreements, maintain and upgrade the streetlight system, relocate utility infrastructure in response to major transportation projects, and provide capital improvements in response to other customer-requested service needs. Because projects in this category respond to external drivers and specific customer requests, the CIP generally shows a decreased level of spending in future years for External Projects.



For 2013, the CIP includes \$30.7 million for 18 projects in External Projects. *Highlights include:*

- ◆ Shoreline Undergrounding: North City and Aurora Avenue North (8320): \$5.8 million in 2013 allocations. This project shows an additional \$2.8 million in 2013 allocations from the 2012-2017 Adopted CIP, and reflects revised construction schedules for these City of Shoreline transportation projects. Costs for this project are fully recovered through rate adjustments to City of Shoreline ratepayers per the terms of City Light's franchise agreement.
- ◆ Streetlight Infrastructure Replacement (8460): \$2.0 million in 2013 allocations. This is a new on-going program to assess and replace deteriorating underground streetlight infrastructure. Costs for this project are recovered through Streetlight rates.
- ◆ Streetlight LED Conversion Program (8441): \$4.5 million in 2013 allocations. This program shows a reduction of \$1.2 million in 2013 allocations from the 2012-2017 Adopted CIP, reflecting improved pricing in LED technology. Conversion of the entire residential streetlight system will be completed in 2014, and the program will shift to replacing arterial streetlights, beginning with secondary and collector arterial streets. Costs for this project are recovered through Streetlight rates.
- ◆ Alaskan Way Viaduct and Seawall Replacement – Utility Relocations (8307): \$6.2 million in 2013 allocations. This project shows a \$12.8 million decrease in 2013 allocations from the 2012-2017 Adopted CIP. The project provides for the relocation of utility infrastructure in conjunction with the Washington State Department of Transportation project. Allocation changes reflect revised scope and schedule projections driven by the transportation project.
- ◆ Mercer Corridor Relocations (8376): \$1.4 million in 2013 allocations. This project shows a \$1.3 million decrease in 2013 allocations from the 2012-2017 Adopted CIP. This decrease reflects a change in cash flow assumptions related to this Seattle Department of Transportation project, rather than significant changes in project scope.
- ◆ Mercer Corridor West Phase Relocations (8443): \$545,000 in 2013 allocations. This project shows a \$3.5 million reduction in 2013 allocations from the 2012-2017 Adopted CIP. This decrease reflects recent design changes to reduce the number of transmission line relocations and utility undergrounding needed to support this Seattle Department of Transportation project.
- ◆ Sound Transit Northlink – City Light (8427): \$3.2 million in 2013 allocations. This project shows a \$2.7 million increase in 2013 allocations from the 2012-2017 Adopted CIP. This increase reflects refinement of the Sound Transit Northlink project and acceleration of the Utility's work to support the project. Work on this project is fully recovered through construction agreements with Sound Transit.

**Central Utility Projects:** Projects in this category provide for centralized billing and customer service systems, financial and information technology systems that are critical to the Utility's operation, and vehicle fleets and facilities that are not part of the power generating plant (e.g., equipment shops, service centers, and maintenance yards). Several projects implementing Strategic Plan initiatives are included in this category, including development of the new Technical Training Center and a number of information technology system improvements.

For 2013, the CIP includes \$49.3 million for 32 projects in Central Utility Projects. *Highlights include:*

- ◆ Customer Information System (9937): \$13.5 million in 2013 allocations. This project shows an increase of \$5.5 million in 2013 allocations from the 2012-2017 Adopted CIP, reflecting more refined project scope and cost estimates. This project replaces the existing Consolidated Customer Service System (shared with SPU), and accounts for City Light's portion of half the project cost.

- ◆ Energy Management System (9956): \$0 in 2013 allocations. This project shows a decrease of \$8.4 million in 2013 allocations from the 2012-2017 Adopted CIP. This project modernizes controls and data management systems for energy operations. The start of this project has been delayed until 2014.
- ◆ Enterprise Document Management System (9962): \$533,000 in 2013 allocations. This is a new project in the 2013-2018 Proposed CIP with \$3 million in total project allocations. This project implements City of Seattle Enterprise Document Management solutions for the Utility.
- ◆ Information Technology Strategic Planning and Disaster Recovery (9964): \$655,000 in 2013 allocations. This is a new project in the 2013-2018 Proposed CIP to develop a disaster recovery plan for the Utility's IT systems, and improve internal procedures and practices. This planning will allow the Utility to participate in the city-wide disaster recovery effort, and clarify the Utility's needs for the city-wide effort. City Light will coordinate with the city-wide IT infrastructure solution for IT disaster response, led by DOIT.
- ◆ IT Security Upgrades (9960): \$887,000 in 2013 allocations. This is a new on-going program to address security vulnerabilities, provide intrusion detection and response, and make other security-related system and procedural improvements.
- ◆ PC, Windows, Software Upgrades (9951): \$1.7 million in 2013 allocations. This project shows an increase of \$1.7 million in 2013 allocations from the 2012-2017 Adopted CIP. This project, originally scheduled to be complete in 2012, has extended into 2013. The increased funding for 2013 does not reflect any fundamental change in project scope or cost.
- ◆ Summit FinMap Upgrade – City Light (9961): \$1.2 million in 2013 allocations. This is a new project in the 2013-2018 Proposed CIP with \$2.5 million in total project allocations. This project implements the citywide upgrade of the Summit financial system.
- ◆ Miscellaneous Building Improvements (9007): \$2.1 million in 2013 allocations. This project shows an increase of \$1.9 million in 2013 allocations from the 2012-2017 Adopted CIP. The increased funding addresses seismic and building structure issues at the service centers and substation buildings.
- ◆ Safety Modifications (9006): \$1.4 million in 2013 allocations. This project shows an increase of \$1.2 million in 2013 allocations from the 2012-2017 Adopted CIP. The increased funding supports the Strategic Plan's safety initiative to replace outdated shop equipment at the South Service Center, Boundary and Skagit facilities.
- ◆ Technical Training Center Development (9230): \$4.8 million in 2013 allocations. This is a new project in the 2013-2018 Proposed CIP with \$6.9 million in total project allocations. The project develops a dedicated training facility on property the utility already owns. The new facility will consolidate training functions for apprentice and journey-level lineworkers, tradeworkers, electricians, and technicians.
- ◆ Vehicle Replacement (9101): \$7.8 million in 2013 allocations. This project shows a decrease of \$1.4 million in 2013 allocations from the 2012-2017 Adopted Budget. The Utility continues to pursue efficiencies in managing the vehicle fleet and expects to reduce the fleet by approximately 200 vehicles in 2012, resulting in a fleet inventory of approximately 900 vehicles and pieces of mobile equipment.
- ◆ Workplace and Process Improvements (9159): \$1.3 million in 2013 allocations. This project shows a reduction of \$1.5 million in 2013 allocations from the 2012-2017 Adopted Budget. The reduction reflects an internal review of current facility needs.

**CIP Budget Control Levels in the 2013-2014 Proposed Budget**

The dollar amounts shown in the CIP are total project costs to be capitalized, and include both direct costs and associated overhead costs. Overhead costs include a share of the department’s support functions (such as finance, administration, and human resources), employee benefits, and interest incurred during construction. City Light applies overhead costs to capital project expenditures only as direct costs are incurred.

Because City Light requests budget authority for indirect overhead costs in Operating Budget Control Levels, the total project allocations in the CIP Programs are higher than the corresponding CIP Budget Control Levels in the 2013-2014 Proposed Budget. A table explaining how the 2013 CIP Program totals align with CIP Budget Control Levels in the 2013 Proposed Budget is shown below.

		<b>CIP Programs – Project Totals for 2013 (\$1,000s)</b>					<b>2013 Proposed Appropriation</b>
<b>Direct Costs (\$1,000s)</b>		Power Supply	Transmission	Distribution	External Projects	Central Utility	
<b>Levels</b>	Power Supply & Environmental Affairs – CIP (SCL250)	50,739	0	0	0	22,185	<b>72,924</b>
	Transmission and Distribution – CIP (SCL360)	0	2,699	63,344	0	0	<b>66,043</b>
	Customer Focused – CIP (SCL370)	0	0	18,476	20,064	14,963	<b>53,503</b>
	Financial Services – CIP (SCL550)	0	0	0	0	8,612	<b>8,612</b>
	<b>Total Direct Costs</b>	<b>50,739</b>	<b>2,699</b>	<b>81,820</b>	<b>20,064</b>	<b>45,761</b>	<b>201,082</b>
<b>Loadings and Overhead Estimates (appropriated separately in Operating BCLs)</b>							
	Interest During Construction	3,333	52	2,449	1,647	981	8,462
	Paid Time Off	1,027	212	4,980	919	599	7,737
	Fringe Benefits	2,089	430	10,129	1,869	1,218	15,735
	Payroll Tax (FICA)	481	108	2,714	507	272	4,082
	Material	11	87	1,669	1,001	3	2,771
	Transportation	152	176	3,459	696	80	4,563
	Shop	39	5	162	7	211	424
	Administrative &	4,584	955	24,829	4,501	3,008	37,878
	<b>CIP Project Allocations</b>	<b>62,455</b>	<b>4,724</b>	<b>132,211</b>	<b>31,211</b>	<b>52,133</b>	<b>282,734</b>

City Light typically abandons unspent capital appropriation authority in the CIP Budget Control Levels at the end of each year and re-appropriates the necessary capital authority in the following year’s budget. In order to manage total spending on certain high-profile projects, the Utility manages the total “lifetime” appropriations for some projects and carries forward the unspent capital appropriation authority for these projects into subsequent years. This allows for careful review of project changes, and easier tracking of total budget and spending on these projects. The 2013-2018 Proposed CIP includes 38 “lifetime” appropriation projects. Examples include:

- ◆ Advanced Metering Infrastructure (8426)
- ◆ Alaskan Way Viaduct and Seawall Replacement – Utility Relocations (8307)
- ◆ Boundary – Licensing Mitigation (6987)

**2013-2018 Proposed Capital Improvement Program**

- ◆ Denny Substation Development (7757)
- ◆ Mercer Corridor Relocations (8376)
- ◆ Technical Training Center Development (9230)
- ◆ Work and Asset Management System (9941)

Because unspent “lifetime” budget authority is carried forward from year to year, the allocations for these projects can vary significantly from the spending plans shown on the project pages. The spending plans reflect the anticipated scheduled spending on these projects. Other projects may also show variance between allocations and spending plans because of encumbrances for multi-year contracts on the project.

### **Anticipated Operating Expenses Associated with Capital Facilities Projects**

Operations and maintenance costs, where identified, are included in the Department’s operating budget. In some projects, City Light has identified operations and maintenance costs of zero, or has not calculated a number (N/C). In these cases, the cost impacts of the project are either insignificant or are offset by cost savings realized by other projects.

## Project Summary

<b>BCL/Program Name</b>									
<b>Project Title &amp; ID</b>	<b>LTD Actuals</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>Total</b>
<b>A1 Power Supply - Boundary</b>									
		<b>BCL/Program Code: SCL250-A1</b>							
Boundary - Licensing Mitigation (6987)	4	519	16,222	12,365	24,826	35,107	13,857	23,888	126,788
Boundary - New Unit - 57 (6533)	0	0	0	111	338	1,457	4,404	22,569	28,879
Boundary Dam - Emergency Lighting Improvements (6342)	871	75	94	0	0	0	0	0	1,040
Boundary Dam - Instrumentation Upgrade and Integration (6343)	4,735	1,523	451	263	24	0	0	0	6,996
Boundary Dam - Outrigger/Transformer Line Replacement System (6357)	713	15	27	0	0	0	0	0	755
Boundary Dam - Spillgate Hoist House Rehab & Oil Control (6349)	468	378	37	0	0	0	0	0	883
Boundary Dam - Units 51-54 Turbine Pit Cranes (6350)	0	0	158	0	0	0	0	0	158
Boundary Dam - Units 51-56 Penstock Flow Monitoring (6383)	0	0	0	521	0	0	0	0	521
Boundary Facility - Electrical System Upgrades (6432)	1,267	196	225	0	0	0	0	0	1,688
Boundary Facility - Minor Improvements Program (6401)	9,914	1,663	2,458	2,280	9,273	18,084	17,792	6,528	67,992
Boundary Powerhouse - Transformer Bank Rockfall Mitigation (6485)	502	3,078	1,265	1,702	18,537	182	0	0	25,266
Boundary Powerhouse - Unit 51 Generator Rebuild (6351)	0	0	0	0	0	0	0	6,819	6,819
Boundary Powerhouse - Unit 53 Generator Rebuild (6352)	0	93	0	0	0	125	6,586	1,110	7,914
Boundary Powerhouse - Unit 54 Generator Rebuild (6353)	0	0	0	0	0	6,487	1,139	0	7,626
Boundary Powerhouse - Unit 55 Generator Rebuild (6303)	2,917	18,863	2,756	0	0	0	0	0	24,536
Boundary Powerhouse - Unit 55 Turbine Runner Replacement (6491)	5,084	6,139	1,430	267	69	0	0	0	12,989
Boundary Powerhouse - Unit 56 Generator Rebuild (6354)	740	13,448	2,216	875	689	0	0	0	17,968
Boundary Powerhouse - Unit 56 Turbine Runner Replacement (6490)	0	8,472	3,940	1,161	284	57	0	0	13,914

\*Amounts in thousands of dollars

**2013 - 2018 Proposed Capital Improvement Program**

## Project Summary

<b>BCL/Program Name</b>									
<b>Project Title &amp; ID</b>	<b>LTD Actuals</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>Total</b>
Boundary Seal Ring and Bushing Improvements (6525)	0	0	2,117	0	0	0	0	0	2,117
Boundary Switchyard - Generator Step-up Transformers (6493)	48	3,112	3,827	6,032	3,162	3,965	4,063	4,164	28,373
<b>A1 Power Supply - Boundary</b>	<b>27,263</b>	<b>57,574</b>	<b>37,223</b>	<b>25,577</b>	<b>57,202</b>	<b>65,464</b>	<b>47,841</b>	<b>65,078</b>	<b>383,222</b>
<b>A2 Power Supply - Skagit</b>									
						<b>BCL/Program Code:</b>		<b>SCL250-A2</b>	
Diablo Camp - Sewer System Rehabilitation (6232)	66	0	264	2,632	0	0	0	0	2,962
Diablo Facility - Lines Protection Upgrades (6483)	1,596	318	58	0	0	0	0	0	1,972
Diablo Facility - Minor Improvements Program (6403)	2,142	1,283	0	0	0	0	0	0	3,425
Diablo Facility - Storage Building (6481)	103	745	973	0	0	0	0	0	1,821
Diablo Load Interrupters Replacement (6532)	0	0	3,292	89	0	0	0	0	3,381
Diablo Powerhouse - Control and Power Cabling Replacement (6363)	0	0	0	388	402	0	0	0	790
Diablo Powerhouse - Crane Wheel Replacements (6471)	0	161	58	0	0	0	0	0	219
Diablo Powerhouse - DC Lighting Systems Upgrade (6365)	0	0	250	22	0	0	0	0	272
Diablo Powerhouse - Rebuild Generator Unit 31 (6422)	0	0	485	10,526	2,852	1,227	69	0	15,159
Diablo Powerhouse - Rebuild Generator Unit 32 (6423)	0	0	0	0	7,120	1,134	0	0	8,254
Diablo Switchyard - Controls for Breakers and Switches (6417)	29	0	116	130	0	0	0	0	275
Gorge Facility - Minor Improvements Program (6404)	2,112	349	0	0	0	0	0	0	2,461
Gorge Facility - Second Tunnel Installation (6302)	5,517	1,146	293	0	0	0	0	0	6,956
Gorge Powerhouse - Control and Power Cabling Replacement (6328)	0	0	105	435	0	0	0	0	540
Gorge Powerhouse - Fire Protection Improvements (6326)	0	0	0	0	77	83	237	189	586

\*Amounts in thousands of dollars

**2013 - 2018 Proposed Capital Improvement Program**

## Project Summary

<b>BCL/Program Name</b>									
<b>Project Title &amp; ID</b>	<b>LTD Actuals</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>Total</b>
Gorge Powerhouse - Transformer Bank 10 Replacement (6224)	404	297	61	0	0	0	0	0	762
Ladder Creek Garden - Irrigation and Illumination (6234)	2,756	174	153	624	0	0	0	0	3,707
Newhalem - Generator 20/Support Facility Rebuild (6479)	865	15	16	0	0	0	0	0	896
Ross Dam - AC/DC Distribution System Upgrade (6373)	1,229	528	409	460	930	0	0	0	3,556
Ross Powerhouse - Fire Protection Systems Modification (6166)	2,239	0	194	0	0	0	0	0	2,433
Ross Powerhouse - Programmable Language Controller Upgrade (6376)	0	0	191	356	308	0	0	0	855
Ross Powerhouse - Replace Governor Oil Pumps (6377)	0	0	115	676	42	0	0	0	833
Ross Rock Slide Area Improvements (6516)	7	1,898	2,357	1,907	0	0	0	0	6,169
Skagit - Facilities Energy Conservation Program (6515)	0	2,719	2,114	0	0	0	0	0	4,833
Skagit Facilities Plan (6520)	0	1,225	753	453	1,399	2,312	0	0	6,142
Skagit Facility - Minor Improvements Program (6405)	9,614	6,255	4,444	3,018	7,135	10,835	10,863	8,920	61,084
Skagit Facility - Oil Containment Improvements (6458)	1,329	297	269	226	0	0	0	0	2,121
Skagit Facility - Radio System Improvements (6421)	9	0	93	141	790	55	0	0	1,088
Skagit Facility - Security Systems (6388)	1,434	195	67	0	0	0	0	0	1,696
Skagit Licensing Mitigation (6991)	35,252	1,433	135	122	129	330	152	160	37,713
Skagit Powerhouses - Install Protection Relays (6415)	1,994	343	297	0	0	0	0	0	2,634
<b>A2 Power Supply - Skagit</b>	<b>68,697</b>	<b>19,381</b>	<b>17,562</b>	<b>22,205</b>	<b>21,184</b>	<b>15,976</b>	<b>11,321</b>	<b>9,269</b>	<b>185,595</b>
<b>A3 Power Supply - Cedar Falls - Tolt</b>						<b>BCL/Program Code:</b>		<b>SCL250-A3</b>	
Cedar Falls - Masonry Dam Stream Flow System Retrofit (6534)	0	0	0	160	0	0	0	0	160
Cedar Falls - New Generator 5/6 Exciters (6531)	0	0	0	269	64	0	0	0	333

\*Amounts in thousands of dollars

### 2013 - 2018 Proposed Capital Improvement Program

## Project Summary

<b>BCL/Program Name</b>									
<b>Project Title &amp; ID</b>	<b>LTD Actuals</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>Total</b>
Cedar Falls Powerhouse - Penstock Stabilization (6358)	1,911	397	132	443	658	71	2,925	97	6,634
Cedar Falls Powerhouse - Unit 5/6 Generator Protective Relay (6450)	1,004	659	471	67	0	0	0	0	2,201
Cedar Falls Powerhouse - Valvehouse Rehabilitation (6324)	0	0	0	0	389	0	0	0	389
Cedar Falls/South Fork Tolt - Minor Improvements Program (6406)	4,957	1,051	805	847	2,567	1,573	1,610	1,654	15,064
Tolt Facility - Penstock Rehabilitation (6478)	0	0	260	0	0	0	0	0	260
Tolt Powerhouse - Power Monitoring Equipment Upgrades (6323)	0	0	42	0	0	0	0	0	42
<b>A3 Power Supply - Cedar Falls - Tolt</b>	<b>7,872</b>	<b>2,107</b>	<b>1,710</b>	<b>1,786</b>	<b>3,678</b>	<b>1,644</b>	<b>4,535</b>	<b>1,751</b>	<b>25,083</b>
<b>A4 Power Supply - Power Supply Other</b>						<b>BCL/Program Code:</b>		<b>SCL250-A4</b>	
Endangered Species Act Mitigation (6990)	10,364	2,011	1,097	1,162	1,231	1,304	1,381	1,462	20,012
Energy Trading and Risk Management (ETRM) System (9936)	1,798	700	0	0	0	0	0	0	2,498
Generation Federal Reliability Standards Improvements (6470)	7,228	825	1,071	800	298	297	0	0	10,519
Hydro Project Spill Containment (6530)	0	0	306	559	1,021	1,006	1,026	882	4,800
Power Production - Network Controls (6385)	1,247	2,449	2,577	3,068	2,791	1,358	0	0	13,490
Special Work Equipment - Generation Plant (6102)	11,366	1,282	909	932	955	981	1,005	1,031	18,461
<b>A4 Power Supply - Power Supply Other</b>	<b>32,003</b>	<b>7,267</b>	<b>5,960</b>	<b>6,521</b>	<b>6,296</b>	<b>4,946</b>	<b>3,412</b>	<b>3,375</b>	<b>69,780</b>
<b>B1 Transmission - Transmission</b>						<b>BCL/Program Code:</b>		<b>SCL360-B1</b>	
Denny Substation Transmission Lines (7125)	0	940	121	560	1,343	9,052	12,592	12,944	37,552
Transmission Capacity (7011)	11,575	22	50	24	24	25	25	26	11,771
Transmission Inter-Agency (7105)	1,248	559	642	525	510	522	535	549	5,090
Transmission Line Inductor Installation (8461)	0	0	227	231	6,604	6,665	0	0	13,727
Transmission Line Reconductoring (8462)	0	0	217	209	1,288	3,968	581	0	6,263

\*Amounts in thousands of dollars

### 2013 - 2018 Proposed Capital Improvement Program



## Project Summary

<b>BCL/Program Name</b>									
<b>Project Title &amp; ID</b>	<b>LTD Actuals</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>Total</b>
Transmission Reliability (7104)	10,345	3,436	3,467	2,517	2,502	2,561	2,625	2,691	30,144
<b>B1 Transmission - Transmission</b>	23,168	4,957	4,724	4,066	12,271	22,793	16,358	16,210	104,547
<b>C1 Distribution - Substations</b>						<b>BCL/Program Code:</b>		<b>SCL360-C1</b>	
Bothell Substation - Transformer Replacements (7812)	0	0	0	0	0	0	2,963	3,144	6,107
Canal Substation - Transformer Replacements (7778)	0	0	0	0	2,384	2,537	1,079	1,003	7,003
Denny Substation Development (7757)	40,011	17,381	2,039	15,760	26,520	8,598	942	0	111,251
North Substation - Transformer Replacements (7777)	107	6,216	1,111	12	0	0	0	0	7,446
Power Stations Demand Driven Improvements (7755)	5,651	6	6	6	6	7	7	7	5,696
Power Stations Oil Containment (7783)	0	262	483	452	445	455	466	478	3,041
Relaying Improvements (7753)	13,544	2,791	2,859	4,223	5,112	4,029	4,149	3,406	40,113
Replace Breakers BPA Covington and Maple Valley Substations (7121)	546	13	13	14	15	16	17	18	652
Shoreline Substation - Transformer Replacements (7776)	34	0	2,543	3,445	967	927	6	0	7,922
Substation Automation (8424)	213	1,808	1,024	1,044	855	875	897	920	7,636
Substation Breaker Replacements and Reliability Additions (7779)	11,644	4,549	3,467	3,061	5,118	4,642	5,963	3,957	42,401
Substation Capacity Additions (7751)	5,630	1,531	1,127	1,291	1,773	1,715	1,437	1,476	15,980
Substation Equipment Improvements (7752)	40,244	3,965	4,183	5,019	7,125	4,443	5,184	5,313	75,476
Substation Plant Improvements (7750)	6,891	1,093	767	699	905	888	910	933	13,086
<b>C1 Distribution - Substations</b>	124,515	39,615	19,622	35,026	51,225	29,132	24,020	20,655	343,810
<b>C2 Distribution - Network</b>						<b>BCL/Program Code:</b>		<b>SCL360-C2</b>	
Broad Street Substation - Network (8203)	56,762	1,817	4,377	6,800	7,013	7,179	2,081	2,133	88,162
Denny Substation - Network (8404)	143	0	2,501	4,921	12,876	23,928	8,894	4,615	57,878

\*Amounts in thousands of dollars

### 2013 - 2018 Proposed Capital Improvement Program

## Project Summary

<b>BCL/Program Name</b>									
<b>Project Title &amp; ID</b>	<b>LTD Actuals</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>Total</b>
First Hill - Network (8301)	9,370	1,391	1,473	1,382	2,606	2,668	2,734	1,639	23,263
Massachusetts Street Substation - Networks (8202)	16,972	4,545	3,401	3,341	3,671	3,758	3,852	3,948	43,488
Network Hazeltine Upgrade (8129)	4,390	622	527	516	584	615	654	695	8,603
Network Maintenance Hole and Vault Rebuild (8130)	45,091	2,973	2,681	2,320	2,886	2,955	2,981	3,056	64,943
Union Street Substation Networks (8201)	21,064	1,508	2,689	1,676	2,205	2,257	2,314	2,371	36,084
University Substation - Network (8464)	0	0	371	523	391	373	409	420	2,487
<b>C2 Distribution - Network</b>	<b>153,792</b>	<b>12,856</b>	<b>18,020</b>	<b>21,479</b>	<b>32,232</b>	<b>43,733</b>	<b>23,919</b>	<b>18,877</b>	<b>324,908</b>
<b>C3 Distribution - Radial</b>						<b>BCL/Program Code:</b>		<b>SCL360-C3</b>	
Automated Utility Design Implementation (9950)	12	50	1,093	405	0	0	0	0	1,560
Dallas Ave. 26 kV Crossing (8322)	413	0	43	144	122	130	0	0	852
Distribution Automation (8425)	0	0	313	2,136	2,186	2,238	0	0	6,873
Lake Forest Park - Feeder Rehabilitation (8384)	3,166	1,232	57	0	0	0	0	0	4,455
Laurelhurst - Underground Rebuild (8373)	2,611	5,033	1,117	580	0	0	0	0	9,341
Mobile Workforce Implementation (8429)	0	548	0	0	1,557	2,949	1,228	1,185	7,467
Neighborhood Cable Injection Program (8440)	6,207	6,809	4,583	4,690	4,205	4,305	4,412	4,522	39,733
Overhead 26kV Conversion (8358)	6,784	1,887	1,548	1,757	1,412	594	684	701	15,367
Overhead Customer Driven Capacity Additions (8355)	20,721	3,557	4,006	4,233	4,908	5,029	5,145	5,278	52,877
Overhead Equipment Replacements (8351)	28,758	6,741	9,238	9,938	10,482	10,135	13,090	13,374	101,756
Overhead System Capacity Additions (8356)	19,732	2,761	2,119	2,183	2,845	2,712	2,885	2,860	38,097
PCB Transformer Replacement (8463)	0	0	305	334	1,241	1,330	1,323	1,324	5,857
Pole Attachment Requests Preparation Work (8452)	949	1,498	2,341	2,718	2,737	3,378	3,462	3,549	20,632
Underground 26kV Conversion (8362)	4,224	2,211	855	1,376	1,714	1,536	1,130	1,332	14,378
Underground Customer Driven Capacity Additions (8360)	13,179	3,150	1,819	2,078	1,879	1,922	1,972	2,018	28,017

\*Amounts in thousands of dollars

### 2013 - 2018 Proposed Capital Improvement Program

## Project Summary

<b>BCL/Program Name</b>									
<b>Project Title &amp; ID</b>	<b>LTD Actuals</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>Total</b>
Underground Equipment Replacements (8353)	5,902	3,552	3,963	7,180	5,129	4,939	3,617	3,722	38,004
Underground System Capacity Additions (8361)	15,497	2,107	3,020	2,385	2,276	2,331	2,390	2,447	32,453
Wood Pole Replacement Program (8371)	17,105	8,256	9,823	7,076	9,023	10,319	10,459	10,655	82,716
<b>C3 Distribution - Radial</b>	145,260	49,392	46,243	49,213	51,716	53,847	51,797	52,967	500,435
<b>C4 Distribution - Service Connections</b>						<b>BCL/Program Code:</b>		<b>SCL370-C4</b>	
Advanced Metering Infrastructure (8426)	0	0	0	0	29,190	27,689	29,544	4,703	91,126
Customer Portal Development (9944)	0	0	870	927	0	0	0	0	1,797
Large Overhead and Underground Services (8365)	8,310	6,067	2,641	2,842	2,683	2,763	2,789	2,951	31,046
Major Emergency (8380)	1,107	618	891	932	113	116	119	122	4,018
Medium Overhead and Underground Services (8366)	44,253	8,561	6,762	7,213	8,322	8,519	8,732	8,950	101,312
Meter Additions (8054)	64,714	5,425	4,424	4,548	3,124	2,547	2,471	2,240	89,493
Meter Reading Software Replacement (9953)	301	1,008	384	0	0	0	0	0	1,693
Network Additions and Services - Denny (8405)	0	0	129	1,388	2,501	2,564	665	674	7,921
Network Additions and Services: Broad Street Substation (8363)	22,652	3,474	6,748	5,445	5,866	6,005	6,155	6,309	62,654
Network Additions and Svcs: First Hill, Mass, Union & Univer (8364)	23,586	3,517	2,219	2,293	2,543	2,603	2,668	2,735	42,164
Normal Emergency (8379)	2,916	641	883	923	589	603	618	634	7,807
Overhead Outage Replacements (8350)	3,111	226	196	318	245	208	231	279	4,814
Small Overhead and Underground Services (8367)	31,578	6,095	5,468	5,609	6,122	6,267	6,424	6,584	74,147
Underground Outage Replacements (8352)	14,684	784	1,372	1,518	1,437	1,475	1,513	1,550	24,333
<b>C4 Distribution - Service Connections</b>	217,212	36,416	32,987	33,956	62,735	61,359	61,929	37,731	544,325
<b>C5 Distribution - Distribution Other</b>						<b>BCL/Program Code:</b>		<b>SCL360-C5</b>	
Asset Management Program (9940)	774	514	35	0	0	0	0	0	1,323
Communications Improvements (9009)	9,609	791	1,548	1,335	1,183	1,445	1,050	1,018	17,979

\*Amounts in thousands of dollars

### 2013 - 2018 Proposed Capital Improvement Program

## Project Summary

<b>BCL/Program Name</b>									
<b>Project Title &amp; ID</b>	<b>LTD Actuals</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>Total</b>
Distribution Area Communications Networks (9307)	12,127	2,214	2,710	1,518	1,102	1,139	1,061	1,347	23,218
Enterprise Geographic Information System (9957)	0	0	725	2,932	1,954	1,099	596	629	7,935
Federal and Regional Reliability Standards Compliance (9963)	0	0	783	0	0	0	0	0	783
Looped Radial Distribution System GIS Editor Replacement (9958)	0	930	521	206	0	0	0	0	1,657
Network Geographic Information Systems (9943)	359	1,675	1,112	347	175	0	0	0	3,668
Security Improvements (9202)	14,377	866	2,380	2,096	2,019	2,066	2,118	2,171	28,093
Special Work Equipment - Other Plant (9102)	22,331	1,635	1,139	1,200	1,139	1,088	948	971	30,451
Transformer and Network Load Management Tools Upgrade (9952)	0	616	554	314	0	0	0	0	1,484
Transmission & Generation Radio Systems (9108)	10,448	863	2,009	506	433	443	454	465	15,621
Work and Asset Management System (9941)	24,518	12,082	1,823	0	0	0	0	0	38,423
<b>C5 Distribution - Distribution Other</b>	<b>94,543</b>	<b>22,186</b>	<b>15,339</b>	<b>10,454</b>	<b>8,005</b>	<b>7,280</b>	<b>6,227</b>	<b>6,601</b>	<b>170,635</b>
<b>D1 External Projects - Local Jurisdictions</b>						<b>BCL/Program Code:</b>		<b>SCL370-D1</b>	
Burien Undergrounding - Phase 2 (8401)	695	5,609	603	0	0	0	0	0	6,907
Citywide Undergrounding Initiative - City Light (8403)	0	3,425	13	0	0	0	0	0	3,438
SeaTac Undergrounding (8444)	196	2,164	17	0	0	0	0	0	2,377
Shoreline Undergrounding: North City and Aurora Avenue North (8320)	23,278	5,839	5,810	856	0	0	0	0	35,783
Streetlight Infrastructure Replacement (8460)	0	0	1,995	2,995	3,065	3,137	3,216	3,296	17,704
Streetlight LED Conversion Program (8441)	7,297	5,718	4,515	5,019	5,135	5,257	5,388	5,523	43,852
Streetlights: Arterial, Residential and Floodlights (8378)	13,071	3,263	2,990	3,057	3,128	3,202	3,282	3,364	35,357
Transportation Streetlights (8377)	4,703	1,445	922	2,569	1,622	1,750	1,794	1,839	16,644
<b>D1 External Projects - Local Jurisdictions</b>	<b>49,240</b>	<b>27,463</b>	<b>16,865</b>	<b>14,496</b>	<b>12,950</b>	<b>13,346</b>	<b>13,680</b>	<b>14,022</b>	<b>162,062</b>

\*Amounts in thousands of dollars

### 2013 - 2018 Proposed Capital Improvement Program

## Project Summary

<b>BCL/Program Name</b>									
<b>Project Title &amp; ID</b>	<b>LTD Actuals</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>Total</b>
<b>D2 External Projects - Transportation Relocations</b>					<b>BCL/Program Code:</b>			<b>SCL370-D2</b>	
Alaskan Way Viaduct and Seawall Replacement - Utility Relocs (8307)	25,276	68,484	6,225	18,369	29,200	8,527	8,424	8,361	172,866
First Hill Connector Streetcar (8442)	108	3,062	213	45	0	0	0	0	3,428
Mercer Corridor Relocations (8376)	7,035	10,111	1,437	0	0	0	0	0	18,583
Mercer Corridor West Phase Relocations (8443)	155	2,740	545	5,325	0	0	0	0	8,765
Sound Transit Light Rail - City Light (8204)	47,370	29	6	172	0	0	0	0	47,577
Sound Transit Light Rail East Link - City Light (8450)	0	65	42	190	1,113	39	0	0	1,449
Sound Transit Northlink - City Light (8427)	84	263	3,174	2,900	535	1,820	0	0	8,776
Transportation Driven Relocations (8369)	10,063	2,650	2,657	3,614	3,536	2,517	2,499	2,793	30,329
<b>D2 External Projects - Transportation Relocations</b>	<b>90,091</b>	<b>87,404</b>	<b>14,299</b>	<b>30,615</b>	<b>34,384</b>	<b>12,903</b>	<b>10,923</b>	<b>11,154</b>	<b>291,773</b>
<b>D3 External Projects - Customer Other</b>					<b>BCL/Program Code:</b>			<b>SCL370-D3</b>	
Creston-Nelson to Intergate East Feeder Installation (8430)	0	6,627	10	0	0	0	0	0	6,637
Neighborhood Voluntary Undergrounding Program (8383)	269	497	37	38	39	40	69	71	1,060
<b>D3 External Projects - Customer Other</b>	<b>269</b>	<b>7,124</b>	<b>47</b>	<b>38</b>	<b>39</b>	<b>40</b>	<b>69</b>	<b>71</b>	<b>7,697</b>
<b>E1 Central Utility Projects - Customer and Billing</b>					<b>BCL/Program Code:</b>			<b>SCL370-E1</b>	
Customer Information System (9937)	0	0	16,362	4,004	956	0	0	0	21,322
<b>E1 Central Utility Projects - Customer and Billing</b>	<b>0</b>	<b>0</b>	<b>16,362</b>	<b>4,004</b>	<b>956</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21,322</b>
<b>E2 Central Utility Projects - Finance and IT Systems</b>					<b>BCL/Program Code:</b>			<b>SCL550-E2</b>	
Energy Management System (9956)	0	0	0	9,563	7,649	5,575	0	0	22,787
Enterprise Document Management System (9962)	0	0	533	386	704	612	623	132	2,990
Enterprise Performance Management (9933)	2,909	1,006	13	444	874	895	0	0	6,141
Information Technology Disaster Recovery (9964)	0	0	655	670	0	0	0	0	1,325

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### 2013 - 2018 Proposed Capital Improvement Program

## Project Summary

<b>BCL/Program Name</b>									
<b>Project Title &amp; ID</b>	<b>LTD Actuals</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>Total</b>
Information Technology Infrastructure (9915)	39,685	4,565	3,063	3,190	3,431	3,761	4,031	3,867	65,593
Integrated Budget System (9955)	0	0	554	572	0	0	0	0	1,126
Inventory System Redevelopment (9959)	0	0	1,208	540	0	0	0	0	1,748
IT Security Upgrades (9960)	0	0	887	861	1,226	674	663	510	4,821
PC, Windows, Software Upgrades (9951)	1,367	4,696	1,666	0	0	0	0	0	7,729
Summit FinMap Upgrade - City Light (9961)	0	0	1,200	1,274	0	0	0	0	2,474
<b>E2 Central Utility Projects - Finance and IT Systems</b>	<b>43,961</b>	<b>10,267</b>	<b>9,779</b>	<b>17,500</b>	<b>13,884</b>	<b>11,517</b>	<b>5,317</b>	<b>4,509</b>	<b>116,734</b>
<b>E3 Central Utility Projects - Fleets and Facilities</b>						<b>BCL/Program Code:</b>		<b>SCL250-E3</b>	
Bothell Substation - New Sewer System (7781)	9	252	79	0	0	0	0	0	340
Bothell Substation - Water Tower Removal (7782)	47	740	192	0	0	0	0	0	979
Bothell Substation Environmental Remediation (9231)	0	0	678	1,495	0	0	0	0	2,173
Building Envelope Upgrades (9072)	6,127	122	3,193	2,252	1,698	1,492	1,489	1,506	17,879
Energy Conservation (9320)	1,366	0	254	270	403	391	416	441	3,541
Environmental Safeguarding and Remediation of Facilities (9152)	702	43	304	335	49	50	51	53	1,587
Facilities Infrastructure Improvements (9156)	1,578	152	545	566	383	392	402	412	4,430
Facilities Regulatory Compliance (9151)	18	34	382	335	157	160	164	168	1,418
Miscellaneous Building Improvements (9007)	13,831	0	2,075	2,559	1,158	1,185	1,215	1,245	23,268
North and South Service Center Improvements (9107)	25,524	206	1,438	1,449	468	268	277	285	29,915
North Service Center Interim Work (9220)	2,969	1,611	90	0	0	0	0	0	4,670
Office Furniture and Equipment Purchase (9103)	25,650	0	218	223	552	565	579	594	28,381
Pole Yard Relocation (9226)	0	1,517	273	0	0	0	0	0	1,790
Safety Modifications (9006)	3,484	229	1,396	567	1,329	1,361	1,395	1,430	11,191
Seismic Mitigation (9134)	4,567	0	57	58	32	33	34	35	4,816

\*Amounts in thousands of dollars

### 2013 - 2018 Proposed Capital Improvement Program















































































































































































































































































































































































































































