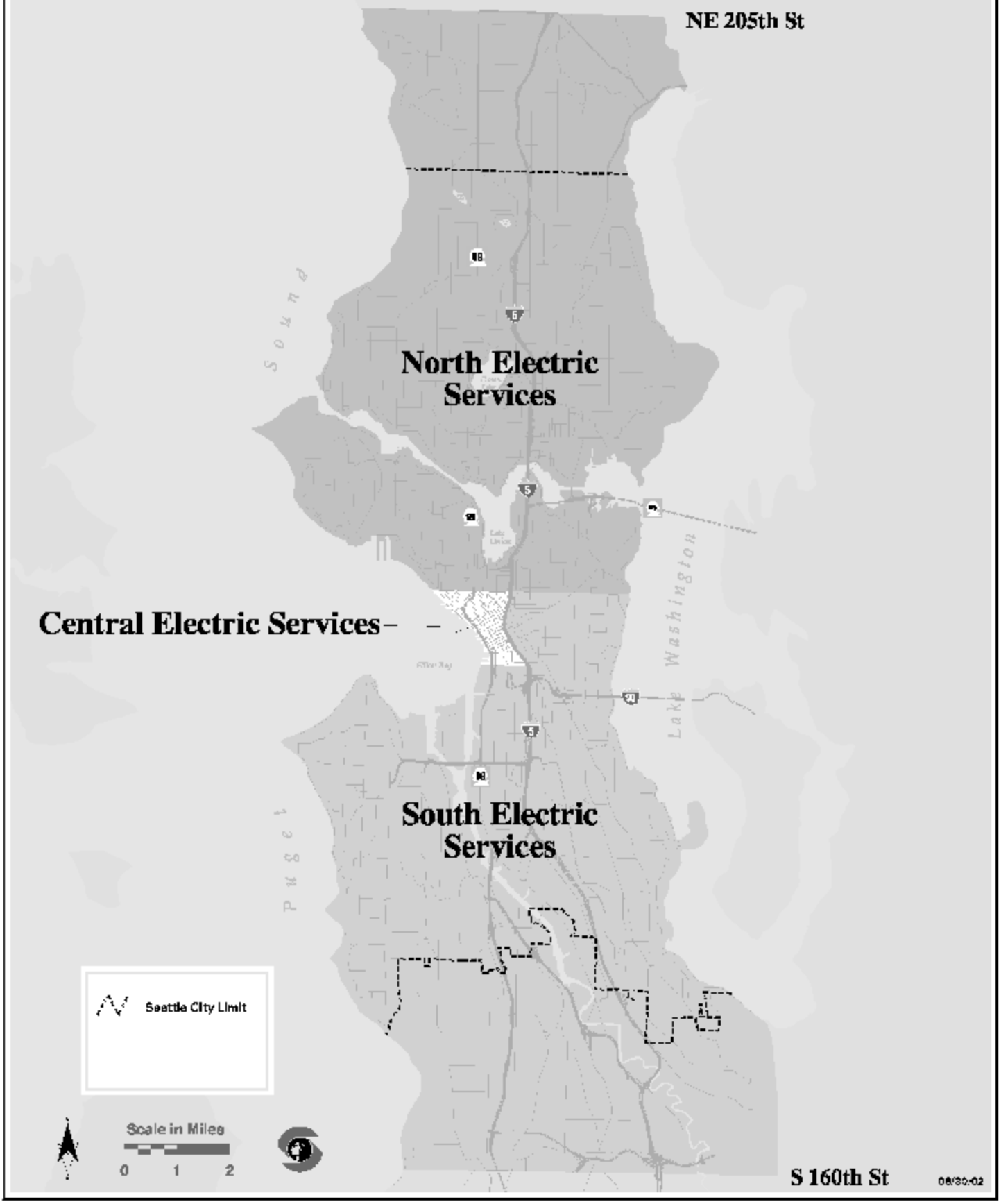
# CITY LIGHT

# Seattle City Light
# 2003-2008 Capital Improvement Project Area



## Overview of Facilities and Programs

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, including the city of Seattle and several adjoining jurisdictions. To serve these customers, Seattle owns, and City Light maintains and operates, a multi-billion-dollar physical plant. The physical plant includes:

- a distribution system with 14 major substations and more than 2,500 miles of overhead and underground cable;
- a generation system comprising seven major hydroelectric plants on the Skagit, Cedar, Tolt, and Pend Oreille Rivers with a combined capacity of almost 2,000 megawatts;
- 650 miles of high-voltage transmission lines linking these plants to Seattle;
- A state-of-the-art System Control Center to coordinate these activities; and
- billing and metering equipment to track almost 350,000 accounts.

City Light's Capital Improvement Program (CIP) is the vehicle for upgrading and expanding this infrastructure. Because this work is labor and cash intensive, and because it may have significant environmental effects, the CIP also funds a variety of safety and mitigation activities. The overriding goal of the CIP is to assure that the facilities required to serve City Light customers with low-cost, reliable power are in place when and where the power is requested.

City Light is now recovering from the devastating effects of the 2000-2001 West-Coast power crisis. Over the past two years, the utility spent approximately $600 million more than planned purchasing power to keep the lights on in the city of Seattle. Because of this, City Light had to raise rates almost 60%, borrow to finance 100% of its CIP plus portions of its operating expenses, make significant reductions in its operating and maintenance (O&M) expenses, and defer portions of its CIP. Notwithstanding the fact that City Light is now in recovery mode and generating significant surplus cash from operations, that cash must be used to repay its short-term debt. City Light's 2003-2008 CIP reflects the reduction in planned spending and deferment of projects until 2005.

The funds shown in this document are expressed as total project costs, including both direct cost and overhead. This makes them comparable with other City departments, indicating the amounts that are capitalized upon completion of the project. The total project cost combines the direct project charges shown in the operating budget under CIP with the applicable "loadings," commonly referred to as overhead. As is the case with direct cost, the project overhead costs are included in the operating budget, but not necessarily in the line of business where the direct cost of the project is incurred. City Light only applies overhead costs to the direct CIP project expenses as they occur.

## Highlights

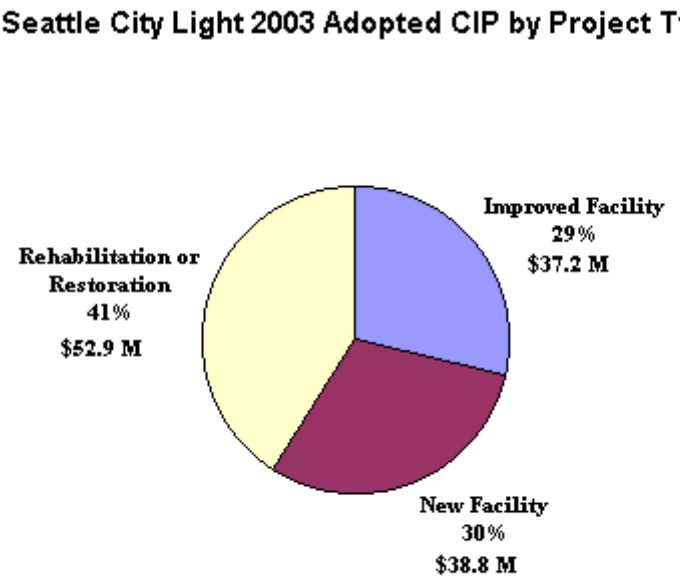
- The Distribution line of business of City Light's CIP is the largest, allocating $89.5 million in resources to various projects that connect new customers and maintain the transmission and distribution system throughout the City Light service area The largest project in this category, Network Additions and Services, allocates approximately $11.1 million to provide electrical service connections and related improvements in the Downtown, First Hill and University network areas. An example of work performed by this project is replacement of transformers and network protectors. Other projects in this program category include a combined total of approximately $21 million to replace line segments and poles, as well as to renovate underground distribution system facilities in both the north and south service areas. Approximately $5.2 million is allocated to expand, replace and upgrade substation equipment. Work continues on rehabilitation of the downtown network and ensuring reliable service for all City Light customers. A system development plan that will guide capital expenditures in the out years of this CIP, and beyond, is currently being prepared.
- The Generation line of business of City Light's CIP allocates approximately $25.1 million in resources to ensure the safe and efficient operation of the hydroelectric dams and other assets owned and operated by City

Light. The Boundary Dam Rehabilitation is the largest project in this category, and allocates $6.9 million to rehabilitate major equipment, auxiliary systems, support features, and recreational facilities. This project combines with other CIP projects at the Boundary Hydroelectric Facility to extend the operating life of the plant, increase its reliability and provide for enhanced public and tourist facilities. Other projects in the Generation program category include rebuilding generators at the Ross Powerhouse as well as various improvements to the Gorge Powerhouse and Diablo Dam.

- The CIP for the Information Technology program, within City Light's Finance and Administration line of business, allocates approximately $11.5 million to various upgrades and improvements to the utility's billing and customer system and other information management systems. Approximately $3 million is allocated to improve the flow of information related to the asset management and work order management functions. City Light also intends to upgrade its billing and customer support system by allocating just under $3 million in resources to this project.
- Other CIP highlights include telecommunications projects that continue construction of the fiber optic network, connecting substations and other City Light facilities; improving City Light's radio system to allow better communication between field crews and dispatch facilities; and replacing obsolete telephone switching equipment. The utility continues to extend its communications backbone system for command and control to the level of distribution feeders and ultimately down to individual distribution transformers and customer meters. Other projects replace the obsolete analog microwave radio system, which serves the transmission and generation facilities that support vital communications systems mandated by the Federal Energy Regulatory Commission (FERC) for the safety of field employees. The replacement of the telephone switches at Diablo provides necessary capacity to serve the Environmental Learning Center.
- The $1.5 million allocated for the Facilities Management program, within the CIP for the Finance and Administration line of business, includes $1.2 million to replace the roof on the Ross Powerhouse.
- The $1.3 million allocated for the Environment & Safety program in 2003 funds the capital portions of license-required mitigation expenses on the Skagit and Tolt Rivers and meets the City's commitments for habitat protection and restoration for Chinook salmon under the Endangered Species Act (ESA). Skagit mitigation projects include creating interpretive displays for visitors to the Skagit and acquiring additional wildlife lands in the Skagit Basin. On the Tolt River, City Light continues to monitor, maintain, and enhance salmon spawning habitat. ESA projects include acquiring and restoring critical Chinook habitat in the Skagit and Tolt basins.

## Project Selection

The chart on the following page shows how City Light allocates new funding in 2003 to three types of projects: rehabilitation of existing facility, improved facility, and new facility.




The following narrative summarizes the selection process City Light uses to develop its CIP:

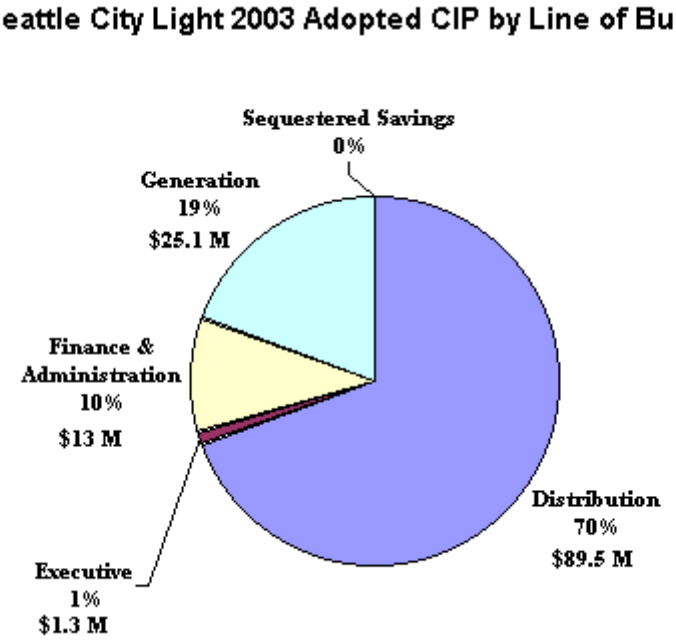
**Project Identification:** City Light staff throughout the department identify potential projects using several criteria, including economics, environmental impact, reliability, customer service, regulations, and safety. City Light field employees also provide input based on their understanding of customer demands. A master list of projects is then developed.

**Project Selection:** To refine the list of projects meeting the criteria listed above, City Light management and staff, with the help of the Department of Finance, evaluate projects further using the results of studies, load forecasts, and rate forecasting estimates. Following this review, City Light refines the list of potential projects to those that can be accomplished with available revenue.

**Project Budget and Scheduling:** After the project list is refined, City Light staff enter information about selected projects into the capital project scheduling system. The scheduling system tracks and refines budget and labor costs and allows staff to cross-check projects against Mayoral and Council priorities.

## CIP Lines of Business

City Light's CIP consists of four lines of business: 1) Distribution, 2) Executive, 3) Finance and Administration, and 4) Generation. The chart below shows the appropriation amounts for 2003, followed by brief descriptions of each line of business. A detailed list of all lines of business in City Light's CIP follows this overview.




**Distribution**: The CIP for this line of business supports fundamental electric utility service, covering City Light's design, construction, and major maintenance of the distribution system. This system includes 14 principal substations, 650 miles of transmission lines, 1,800 miles of overhead feeder circuits, 600 miles of underground feeder cables, 53,000 transformers, and 100,000 poles. The utility's System Control Center was transferred to the Distribution Branch effective January 2002.

The Distribution CIP includes an array of projects spanning six major areas: new services, capacity additions, reliability, interagency projects, street lighting, and ancillary support. Estimates of the resources available to implement the Downtown Network Strategic Systems Plan, the Electrical System Capacity Plan for Power Delivery, and system reliability improvements are significantly below estimated requirements.

**Executive:** The CIP for this line of business includes projects to mitigate the environmental effects of City Light's hydroelectric projects, to meet the City's commitments to provide wildlife habitat protection and restoration, and to provide for utility-wide safety improvements. Projects include purchasing and setting aside critical habitat for wildlife in the Skagit and Nooksack river basins; building a new information center for visitors to the Skagit; constructing additional salmon spawning and rearing areas; habitat acquisition and restoration for threatened Chinook salmon.

**Finance and Administration:** The CIP for the Finance and Administration line of business includes two programs, Facilities Management and Information Technology.

The Facilities Management program includes projects to keep City Light's buildings and grounds functional, safe, and up-to-date. City Light owns 1.4 million square feet of building space in four counties with an aggregate value of approximately $525 million. These buildings include service centers, substations, switchgear buildings, training centers, communications buildings, office buildings, warehouses, construction and maintenance shops, garages, remote employee housing, and tourist facilities.

The Information Technology program includes projects that provide modern and efficient information systems and related services to meet City Light's business objectives.

**Generation**: The CIP for this line of business includes projects to improve and enhance Seattle's hydroelectric generating facilities. These facilities include seven major plants on the Skagit, Pend Oreille, Cedar, and Tolt Rivers, which, on average, can meet 70% of Seattle's annual electrical power demands. The remainder of the demand comes through long-term contracts and spot market purchases.

## Project Summary

| Program/Project | Project ID | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| **Distribution** | | | | | | | | | | |
| Alaskan Way Viaduct - City Light | 8307 | 0 | 169 | 397 | 522 | 7,712 | 8,786 | 7,163 | 6,968 | **31,717** |
| Broad Street Substation Networks | 8203 | 4,787 | 4,860 | 4,042 | 4,698 | 4,634 | 4,743 | 4,868 | 4,962 | **37,594** |
| Central Arterial Streetlights Major Maint. | 8212 | 221 | 422 | 719 | 740 | 778 | 797 | 818 | 834 | **5,329** |
| Communications Improvements | 9009 | 243 | 195 | 240 | 236 | 202 | 205 | 210 | 214 | **1,745** |
| Distribution Area Communications Networks | 9307 | 710 | 1,359 | 470 | 621 | 655 | 670 | 688 | 701 | **5,874** |
| Downtown Substation - Preliminary Engineering | 7754 | 202 | 496 | 1 | 1 | 3 | 3 | 3 | 3 | **712** |
| E3 Busway Transmission Ducts | 7102 | 0 | 124 | 0 | 0 | 0 | 0 | 0 | 0 | **124** |
| Elevated Transportation Company - City Light | 8306 | 0 | 169 | 345 | 461 | 2,157 | 2,215 | 874 | 1,221 | **7,442** |
| First Hill Network | 8301 | 0 | 77 | 2,134 | 1,081 | 1,102 | 1,127 | 1,156 | 1,178 | **7,855** |
| Interbay Substation | 7756 | 2,291 | 87 | 1 | 1 | 3 | 3 | 3 | 3 | **2,392** |
| Maple Valley Sno-King 230 kV Line Restoration | 7054 | 3,588 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | **3,599** |
| Massachusetts Street Substation Networks | 8202 | 1,007 | 430 | 307 | 492 | 454 | 465 | 477 | 486 | **4,118** |
| Meter Additions | 8054 | 2,702 | 2,746 | 2,852 | 2,959 | 2,679 | 2,738 | 2,809 | 2,862 | **22,347** |
| Metro Direct Current Cables | 8144 | 31 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | **71** |
| Mobile Equipment | 9101 | 1,960 | 1,186 | 1,029 | 1,012 | 1,035 | 1,058 | 1,083 | 1,103 | **9,466** |
| Neighborhood Planning | 8207 | 430 | 541 | 564 | 578 | 558 | 571 | 585 | 596 | **4,423** |
| Neighborhood Undergrounding | 8206 | 29 | 160 | 169 | 169 | 172 | 176 | 180 | 184 | **1,239** |
| Network Additions and Services | 8057 | 13,826 | 11,678 | 11,125 | 11,299 | 10,874 | 11,122 | 11,414 | 11,634 | **92,972** |
| Network Hazeltine Upgrade | 8129 | 377 | 101 | 299 | 302 | 316 | 324 | 332 | 339 | **2,390** |
| Network Maintenance Hole and Vault Rebuild | 8130 | 13,556 | 2,080 | 2,410 | 2,985 | 3,086 | 3,161 | 3,244 | 3,306 | **33,828** |
| North 26kV Conversion | 8124 | 801 | 871 | 1,030 | 1,012 | 1,525 | 1,567 | 1,607 | 1,638 | **10,051** |
| North Arterial Streetlights Major Maintenance | 8211 | 92 | 189 | 194 | 199 | 218 | 223 | 228 | 233 | **1,576** |

***Amounts in thousands of dollars***

## Project Summary

| Program/Project | Project ID | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| **Distribution** | | | | | | | | | | |
| North Capacity Additions | 8122 | 9,843 | 10,013 | 11,003 | 11,171 | 10,912 | 11,166 | 11,459 | 11,680 | **87,247** |
| North New Street and Flood Lighting | 8134 | 68 | 37 | 38 | 39 | 68 | 70 | 72 | 74 | **466** |
| North Outage Replacements | 8302 | 7 | 84 | 109 | 112 | 109 | 112 | 115 | 117 | **765** |
| North Relocations | 8304 | 0 | 2,024 | 2,174 | 2,263 | 1,582 | 1,610 | 1,649 | 1,680 | **12,982** |
| North Residential Streetlight Improvements | 8136 | 38 | 82 | 84 | 86 | 4 | 4 | 4 | 5 | **307** |
| North Services - Overhead and Underground | 8120 | 6,508 | 8,793 | 7,854 | 8,476 | 7,908 | 8,088 | 8,300 | 8,460 | **64,387** |
| Power Stations Demand Driven Improvements | 7755 | 0 | 81 | 890 | 1,406 | 1,126 | 1,151 | 1,182 | 1,205 | **7,041** |
| Relaying Improvements | 7753 | 435 | 1,128 | 1,020 | 1,020 | 984 | 1,006 | 1,034 | 1,054 | **7,681** |
| Replace 115kV Arbutus Conductors | 7103 | 0 | 327 | 0 | 0 | 0 | 0 | 0 | 0 | **327** |
| Skagit Telephone System Upgrade | 9311 | 5 | 48 | 673 | 138 | 0 | 0 | 0 | 0 | **864** |
| SnoKing-Bothell #2 Permanent Connection | 7101 | 0 | 54 | 0 | 0 | 0 | 0 | 0 | 0 | **54** |
| Sound Transit Light Rail - City Light | 8204 | 322 | 817 | 4,007 | 3,805 | 10,314 | 12,328 | 713 | 550 | **32,856** |
| South 26kV Conversion | 8125 | 110 | 880 | 1,332 | 1,314 | 1,192 | 1,215 | 1,247 | 1,271 | **8,561** |
| South Arterial Streetlights Major Maintenance | 8210 | 51 | 176 | 200 | 202 | 183 | 187 | 192 | 196 | **1,387** |
| South Capacity Additions | 8123 | 10,695 | 11,154 | 4,741 | 4,753 | 4,368 | 4,458 | 4,572 | 4,659 | **49,400** |
| South Lake Union - Power Supply | 8308 | 0 | 112 | 126 | 130 | 0 | 0 | 0 | 0 | **368** |
| South New Street and Flood Lighting | 8133 | 351 | 211 | 210 | 214 | 190 | 194 | 199 | 203 | **1,772** |
| South Outage Replacements | 8303 | 361 | 1,024 | 1,126 | 1,170 | 1,086 | 1,111 | 1,141 | 1,163 | **8,182** |
| South Relocations | 8305 | 0 | 3,198 | 10,155 | 10,612 | 9,809 | 10,037 | 10,303 | 10,502 | **64,616** |
| South Residential Streetlight Improvements | 8135 | 154 | 177 | 182 | 181 | 168 | 171 | 175 | 179 | **1,387** |
| South Services - Overhead and Underground | 8121 | 5,937 | 4,374 | 4,727 | 4,842 | 4,426 | 4,524 | 4,642 | 4,731 | **38,203** |

***Amounts in thousands of dollars***

## Project Summary

| Program/Project | Project ID | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| **Distribution** | | | | | | | | | | |
| Special Work Equipment - Substation Plant | 7902 | 160 | 83 | 129 | 60 | 85 | 87 | 89 | 92 | **785** |
| Substation Capacity Additions | 7751 | 344 | 2,947 | 730 | 802 | 733 | 748 | 767 | 782 | **7,853** |
| Substation Equipment Improvements | 7752 | 5,819 | 6,684 | 5,196 | 5,346 | 5,300 | 5,428 | 5,570 | 5,721 | **45,064** |
| Substation Plant Improvements | 7750 | 170 | 725 | 1,578 | 1,172 | 980 | 999 | 1,025 | 1,045 | **7,694** |
| Tool and Work Equipment - Other Plant | 9102 | 225 | 567 | 445 | 455 | 546 | 560 | 574 | 585 | **3,957** |
| Transmission & Generation Radio Systems | 9108 | 2,721 | 1,211 | 1,157 | 1,585 | 1,611 | 1,649 | 1,691 | 1,722 | **13,347** |
| Transmission Capacity | 7011 | 116 | 465 | 674 | 697 | 704 | 721 | 741 | 755 | **4,873** |
| Transmission Inter-Agency | 7105 | 138 | 105 | 164 | 170 | 172 | 177 | 181 | 185 | **1,292** |
| Transmission Reliability | 7104 | 0 | 121 | 115 | 119 | 123 | 126 | 129 | 132 | **865** |
| Union Street Substation Networks | 8201 | 2,978 | 1,419 | 333 | 328 | 298 | 304 | 311 | 317 | **6,288** |
| **Distribution Total** | | **94,409** | **87,077** | **89,505** | **92,042** | **103,150** | **108,191** | **95,825** | **97,536** | **767,735** |
| **Executive** | | | | | | | | | | |
| Endangered Species Act Mitigation | 6990 | 1,165 | 2,343 | 802 | 856 | 581 | 701 | 615 | 740 | **7,803** |
| Newhalem Creek Mitigation | 6175 | 1,024 | 19 | 0 | 0 | 60 | 9 | 0 | 0 | **1,112** |
| Safety Modifications | 9006 | 183 | 286 | 261 | 233 | 188 | 191 | 191 | 194 | **1,727** |
| Skagit Licensing Mitigation | 6991 | 31,640 | 1,096 | 95 | 346 | 494 | 428 | 556 | 450 | **35,105** |
| South Fork Tolt River Mitigation | 6046 | 53,945 | 720 | 108 | 98 | 80 | 82 | 84 | 86 | **55,203** |
| **Executive Total** | | **87,957** | **4,464** | **1,266** | **1,533** | **1,403** | **1,411** | **1,446** | **1,470** | **100,950** |

***Amounts in thousands of dollars***

## Project Summary

| Program/Project | Project ID | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| **Finance & Administration** | | | | | | | | | | |
| Consolidated Customer Service System | 9910 | 47,801 | 1,988 | 2,972 | 3,330 | 0 | 0 | 0 | 0 | **56,091** |
| Customer Data Services (CMart) | 9926 | 3,319 | 2,028 | 1,631 | 1,571 | 0 | 0 | 0 | 0 | **8,549** |
| Disaster Recovery/Business Continuity | 9925 | 77 | 512 | 49 | 122 | 447 | 977 | 240 | 0 | **2,424** |
| Distribution Automated Mapping System | 9905 | 20,132 | 1,187 | 1,154 | 1,211 | 1,332 | 1,405 | 1,482 | 1,550 | **29,453** |
| Drawing Conversions - Seattle City Light | 9909 | 5,663 | 550 | 43 | 0 | 0 | 0 | 0 | 0 | **6,256** |
| Facilities ADA and Regulatory Compliance | 9151 | 8 | 0 | 0 | 0 | 91 | 93 | 95 | 97 | **384** |
| Facilities Environmental Remediation | 9152 | 642 | 28 | 48 | 0 | 150 | 156 | 161 | 163 | **1,348** |
| Facility Security | 9154 | 155 | 0 | 0 | 0 | 122 | 127 | 131 | 133 | **668** |
| Information Technology Infrastructure | 9915 | 16,065 | 3,471 | 2,676 | 2,944 | 3,372 | 4,103 | 4,505 | 4,863 | **41,999** |
| Mechanical Improvements | 9156 | 848 | 27 | 96 | 0 | 236 | 246 | 253 | 257 | **1,963** |
| Miscellaneous Building Improvements | 9007 | 360 | 474 | 125 | 251 | 486 | 498 | 0 | 0 | **2,194** |
| North and South Service Center Improvements | 9107 | 21,544 | 332 | 0 | 186 | 0 | 0 | 0 | 0 | **22,062** |
| Office Furniture and Equipment Purchase | 9103 | 508 | 6 | 0 | 296 | 0 | 0 | 0 | 0 | **810** |
| Roof Replacements | 9072 | 96 | 89 | 1,162 | 0 | 226 | 234 | 241 | 245 | **2,293** |
| Seismic Mitigation | 9134 | 4,567 | 58 | 0 | 0 | 120 | 125 | 128 | 130 | **5,128** |
| Space Consolidation | 9159 | 232 | 69 | 58 | 60 | 0 | 0 | 0 | 0 | **419** |
| Substation Comprehensive Improvements | 9161 | 649 | 440 | 0 | 482 | 0 | 0 | 0 | 0 | **1,571** |
| Work Process Management System | 9927 | 794 | 2,011 | 3,027 | 2,397 | 2,124 | 2,224 | 2,472 | 2,281 | **17,330** |
| **Finance & Administration Total** | | **123,460** | **13,270** | **13,041** | **12,850** | **8,706** | **10,188** | **9,708** | **9,719** | **200,942** |

***Amounts in thousands of dollars***

## Project Summary

| Program/Project | Project ID | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| **Generation** | | | | | | | | | | |
| Boundary Dam - Emergency Lighting Improvements | 6342 | 0 | 0 | 0 | 72 | 84 | 3 | 0 | 0 | **159** |
| Boundary Dam - Network Control System & Control | 6344 | 0 | 0 | 162 | 222 | 1,357 | 324 | 2 | 0 | **2,067** |
| Boundary Dam - Powerhouse Elevator Improvements | 6356 | 0 | 0 | 53 | 653 | 99 | 0 | 0 | 0 | **805** |
| Boundary Dam - Rehabilitation | 6186 | 35,604 | 14,193 | 6,964 | 1,436 | 0 | 0 | 0 | 0 | **58,197** |
| Boundary Dam - Service Area Improvements | 6347 | 0 | 0 | 745 | 368 | 1,328 | 31 | 0 | 0 | **2,472** |
| Boundary Dam - Sluice Maintenance Gate Overhaul | 6348 | 0 | 0 | 599 | 362 | 0 | 0 | 0 | 0 | **961** |
| Boundary Dam - Spillgate Hoist House Rehab & Oil Control | 6349 | 0 | 0 | 0 | 583 | 0 | 0 | 0 | 0 | **583** |
| Boundary Dam - Tailrace Recreation Area Improvement | 6346 | 0 | 0 | 0 | 0 | 215 | 708 | 119 | 0 | **1,042** |
| Boundary Dam - Transformer Bay Rockfall Mitigation | 6357 | 0 | 0 | 226 | 2,458 | 177 | 0 | 0 | 0 | **2,861** |
| Boundary Dam - Trashrake System | 6338 | 0 | 0 | 76 | 72 | 1,435 | 19 | 0 | 0 | **1,602** |
| Boundary Dam - Unit 51 Turbine Runner | 6124 | 1,412 | 2,672 | 1,650 | 27 | 0 | 0 | 0 | 0 | **5,761** |
| Boundary Dam - Unit 52 Turbine Runner | 6125 | 5,258 | 250 | 0 | 0 | 0 | 0 | 0 | 0 | **5,508** |
| Boundary Dam - Unit 53 Turbine Runner | 6126 | 3,989 | 1,487 | 1 | 0 | 0 | 0 | 0 | 0 | **5,477** |
| Boundary Dam - Unit 55 Generator Rebuild | 6303 | 0 | 0 | 0 | 0 | 0 | 0 | 6,387 | 776 | **7,163** |
| Boundary Dam - Units 51-54 Turbine Pit Cranes | 6350 | 0 | 0 | 79 | 0 | 0 | 0 | 0 | 0 | **79** |
| Boundary Dam - Units 51-56 Control Board Upgrade | 6343 | 0 | 0 | 120 | 182 | 1,311 | 182 | 47 | 0 | **1,842** |
| Boundary Dam - Units 51-56 Governor Controls Upgrade | 6340 | 0 | 0 | 0 | 0 | 369 | 1,278 | 164 | 55 | **1,866** |

***Amounts in thousands of dollars***

## Project Summary

| Program/Project | Project ID | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| **Generation** | | | | | | | | | | |
| Boundary Dam - Units 51-56 Penstock Flow Monitoring | 6383 | 0 | 0 | 0 | 183 | 0 | 0 | 0 | 0 | **183** |
| Boundary Dam Elevator Improvements | 6355 | 0 | 0 | 51 | 602 | 151 | 0 | 0 | 0 | **804** |
| Boundary Dam Safety Improvements | 6161 | 9,776 | 722 | 1,061 | 294 | 0 | 0 | 0 | 0 | **11,853** |
| Boundary Forebay Recreation Area Improvements | 6345 | 0 | 0 | 0 | 0 | 43 | 671 | 27 | 0 | **741** |
| Boundary Vista House Recreation Area Improvements | 6384 | 0 | 0 | 47 | 128 | 14 | 0 | 0 | 0 | **189** |
| Cedar Falls - Habitat Conservation Plan | 6214 | 1,441 | 2,320 | 428 | 47 | 0 | 0 | 0 | 0 | **4,236** |
| Cedar Falls - Intake Gate Replacement | 6171 | 5,352 | 451 | 82 | 0 | 0 | 0 | 0 | 0 | **5,885** |
| Cedar Falls - Rehab/Reline Penstocks | 6358 | 0 | 0 | 0 | 0 | 0 | 569 | 3,772 | 3,906 | **8,247** |
| Dam Safety Program | 6389 | 0 | 0 | 125 | 108 | 134 | 138 | 140 | 142 | **787** |
| Diablo Dam - Automate Spillgates | 6359 | 0 | 0 | 0 | 0 | 82 | 590 | 0 | 0 | **672** |
| Diablo Dam - Spillgate Control Improvements | 6238 | 4 | 115 | 293 | 11 | 0 | 0 | 0 | 0 | **423** |
| Diablo Powerhouse - Replace 5 kV Switchgear | 6364 | 0 | 0 | 0 | 0 | 0 | 517 | 533 | 0 | **1,050** |
| Diablo Powerhouse - Replace Control and Power | 6363 | 0 | 0 | 0 | 0 | 0 | 0 | 365 | 377 | **742** |
| Diablo Powerhouse - Replace Units 31-32 Governors | 6366 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 266 | **266** |
| Diablo Powerhouse - Upgrade Annunciator System | 6367 | 0 | 0 | 0 | 0 | 346 | 0 | 0 | 0 | **346** |
| Diablo Powerhouse DC Lighting Systems Upgrade | 6365 | 0 | 0 | 0 | 120 | 218 | 0 | 0 | 0 | **338** |
| Diablo Sewer System Improvement | 6232 | 1 | 0 | 0 | 0 | 0 | 95 | 845 | 9 | **950** |
| Diablo Switchyard Resurfacing | 6361 | 0 | 0 | 0 | 0 | 375 | 0 | 0 | 0 | **375** |

***Amounts in thousands of dollars***

## Project Summary

| Program/Project | Project ID | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| **Generation** | | | | | | | | | | |
| Diablo Water System Improvements | 6304 | 0 | 0 | 284 | 221 | 24 | 0 | 0 | 0 | **529** |
| Environmental Learning Center | 6988 | 83 | 14,085 | 2,672 | 297 | 19 | 0 | 0 | 0 | **17,156** |
| Fire Protection Systems Modification | 6166 | 1,381 | 0 | 0 | 848 | 32 | 0 | 0 | 0 | **2,261** |
| Generation - Civil-Mechanical Modification | 6005 | 304 | 1,349 | 1,291 | 1,063 | 1,252 | 1,285 | 1,317 | 1,338 | **9,199** |
| Generation - Electrical Enhancements | 6087 | 307 | 846 | 881 | 979 | 914 | 935 | 957 | 973 | **6,792** |
| Gorge Dam - Spillgate Control Improvements | 6222 | 40 | 93 | 151 | 37 | 0 | 0 | 0 | 0 | **321** |
| Gorge Dam - Spillgate Rehabilitation | 6221 | 0 | 0 | 0 | 0 | 0 | 0 | 1,471 | 47 | **1,518** |
| Gorge Dam - Unit 24 Turbine-Runner Overhaul | 6219 | 21 | 11 | 0 | 1,742 | 1,153 | 2,755 | 560 | 0 | **6,242** |
| Gorge Powerhouse - 240 kV Oil-filled Circuit Breakers | 6226 | 529 | 324 | 299 | 609 | 0 | 0 | 0 | 0 | **1,761** |
| Gorge Powerhouse - AC/DC Distribution System | 6207 | 29 | 424 | 333 | 27 | 0 | 0 | 0 | 0 | **813** |
| Gorge Powerhouse - Control and Power Cabling Replacement | 6328 | 0 | 0 | 0 | 0 | 0 | 194 | 202 | 307 | **703** |
| Gorge Powerhouse - Generator Hall and High Room Lighting | 6330 | 0 | 0 | 0 | 0 | 0 | 249 | 257 | 0 | **506** |
| Gorge Powerhouse - Programmable Logic Controllers | 6369 | 0 | 0 | 0 | 0 | 0 | 231 | 0 | 0 | **231** |
| Gorge Powerhouse - Transformer Bank 10 Replacement | 6224 | 23 | 0 | 0 | 346 | 19 | 0 | 0 | 0 | **388** |
| Gorge Powerhouse - Transformer Bank 22 Replacement | 6370 | 0 | 0 | 0 | 0 | 2,190 | 877 | 0 | 0 | **3,067** |
| Gorge Powerhouse - Transformer Bank 24 Replacement | 6371 | 0 | 0 | 0 | 0 | 0 | 3,328 | 904 | 46 | **4,278** |
| Gorge Switchyard Resurfacing | 6362 | 0 | 0 | 0 | 0 | 250 | 0 | 0 | 0 | **250** |

***Amounts in thousands of dollars***

## Project Summary

| Program/Project | Project ID | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| **Generation** | | | | | | | | | | |
| Ladder Creek Water System | 6234 | 7 | 0 | 0 | 192 | 215 | 0 | 0 | 0 | **414** |
| Newhalem Garage - Revisions | 6231 | 0 | 0 | 0 | 0 | 172 | 262 | 0 | 0 | **434** |
| Newhalem Powerhouse - Governor Replacement | 6392 | 0 | 0 | 0 | 0 | 0 | 0 | 60 | 61 | **121** |
| Newhalem Powerhouse - Station Battery and Charger Replacement | 6301 | 0 | 0 | 217 | 0 | 0 | 0 | 0 | 0 | **217** |
| Ross Dam - Abutment Rock Stabilization | 6241 | 21 | 275 | 2 | 0 | 0 | 0 | 0 | 0 | **298** |
| Ross Dam - AC/DC Distribution System Upgrade | 6373 | 0 | 0 | 0 | 62 | 261 | 179 | 0 | 0 | **502** |
| Ross Dam - Install Fiber Optic Cable Powerhouse to Dam | 6372 | 0 | 0 | 0 | 0 | 243 | 0 | 0 | 0 | **243** |
| Ross Powerhouse - PLC Upgrade | 6376 | 0 | 0 | 0 | 60 | 356 | 104 | 0 | 0 | **520** |
| Ross Powerhouse - Batteries Replacement | 6375 | 0 | 0 | 0 | 103 | 34 | 0 | 0 | 0 | **137** |
| Ross Powerhouse - Generator 41 Rebuild | 6382 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5,205 | **5,205** |
| Ross Powerhouse - Generator 42 Rebuild | 6379 | 0 | 0 | 4,608 | 1,107 | 0 | 0 | 0 | 0 | **5,715** |
| Ross Powerhouse - Generator 43 Rebuild | 6380 | 0 | 0 | 0 | 0 | 4,849 | 1,270 | 0 | 0 | **6,119** |
| Ross Powerhouse - Generator 44 Rebuild | 6381 | 0 | 0 | 0 | 0 | 0 | 4,966 | 1,300 | 0 | **6,266** |
| Ross Powerhouse - Generator Rewind Program | 6215 | 24 | 0 | 42 | 535 | 447 | 461 | 527 | 10 | **2,046** |
| Ross Powerhouse - Governors Replacement | 6205 | 555 | 0 | 0 | 0 | 0 | 0 | 698 | 696 | **1,949** |
| Ross Powerhouse - Replace Generator Breakers | 6374 | 0 | 0 | 0 | 0 | 0 | 0 | 1,487 | 1,541 | **3,028** |
| Ross Powerhouse - Replace Governor Oil Pumps | 6377 | 0 | 0 | 0 | 0 | 77 | 194 | 0 | 0 | **271** |
| Skagit Security Systems | 6388 | 0 | 0 | 745 | 683 | 0 | 0 | 0 | 0 | **1,428** |

***Amounts in thousands of dollars***

## Project Summary

| Program/Project | Project ID | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| **Generation** | | | | | | | | | | |
| Special Work Equipment - Generation Plant | 6102 | 178 | 725 | 803 | 789 | 439 | 444 | 453 | 463 | **4,294** |
| Tolt - Penstock Crossover Connection | 6360 | 0 | 0 | 0 | 368 | 38 | 0 | 0 | 0 | **406** |
| Tolt Turbine Runner Repair/Replacement | 6242 | 881 | 87 | 0 | 0 | 0 | 0 | 0 | 0 | **968** |
| **Generation Total** | | **67,220** | **40,429** | **25,090** | **17,996** | **20,722** | **22,859** | **22,594** | **16,218** | **233,128** |
| **Sequestered Savings** | | | | | | | | | | |
| Budget Savings | 9999 | 0 | 21,826 | 0 | 0 | 0 | 0 | 0 | 0 | **21,826** |
| **Sequestered Savings Total** | | **0** | **21,826** | **0** | **0** | **0** | **0** | **0** | **0** | **21,826** |
| **Department Total** | | **373,046** | **167,066** | **128,902** | **124,421** | **133,981** | **142,649** | **129,573** | **124,943** | **1,324,581** |

***Amounts in thousands of dollars***

## Fund Source Summary

| Funding Source | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| Seattle City Light Fund | 373,046 | 167,066 | 128,902 | 124,421 | 133,981 | 142,649 | 129,573 | 124,943 | **1,324,581** |
| **Department Total** | **373,046** | **167,066** | **128,902** | **124,421** | **133,981** | **142,649** | **129,573** | **124,943** | **1,324,581** |

***Amounts in thousands of dollars***

## Alaskan Way Viaduct - City Light

**Program:** Distribution
**Type:** Improved Facility
**Project ID:** 8307
**Start Date:** 1st Quarter 2002
**End Date:** 4th Quarter 2008

This project designs and constructs relocations of City Light's extensive electrical distribution and transmission systems affected by Alaskan Way Viaduct construction. This project preserves the integrity of City Light's electrical system for all of its customers, and, for public safety, maintains required electrical clearances during construction. Several alternatives for modifying the Viaduct have been reviewed. A preferred alternative has been chosen by City Council, but the project's future is subject to a public vote for continued funding. City Light's budget for this project assumes that design and planning continue throughout the referendum process.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **169** | **397** | **522** | **7,712** | **8,786** | **7,163** | **6,968** | **31,717** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Boundary Dam - Emergency Lighting Improvements

**Program:** Generation
**Type:** Rehabilitation or Restoration
**Project ID:** 6342
**Start Date:** 2nd Quarter 2004
**End Date:** 1st Quarter 2006

**Location:** 10382 Boundary Rd

This project assesses emergency lighting and cable/wiring conditions throughout the Boundary Dam facility and upgrades, replaces, or repairs lighting where necessary.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **0** | **72** | **84** | **3** | **0** | **0** | **159** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Boundary Dam - Network Control System & Control

**Program:** Generation
**Type:** Rehabilitation or Restoration
**Project ID:** 6344
**Start Date:** 1st Quarter 2003
**End Date:** 1st Quarter 2007

**Location:** 10382 Boundary Rd

This project implements the conceptual design for a network-based control system at Boundary Dam. Security system improvements (installed separately) are designed to interface with this system.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **162** | **222** | **1,357** | **324** | **2** | **0** | **2,067** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Boundary Dam - Powerhouse Elevator Improvements

**Program:** Generation
**Type:** Improved Facility
**Project ID:** 6356
**Location:** 10382 Boundary Rd
**Start Date:** 3rd Quarter 2003
**End Date:** 2nd Quarter 2005

This project provides funding for a purchase and install contract for repairs to and/or upgrades of the powerhouse elevator to improve its functionality and/or restore its reliability.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **53** | **653** | **99** | **0** | **0** | **0** | **805** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Boundary Dam - Rehabilitation

**Program:** Generation
**Type:** Rehabilitation or Restoration
**Project ID:** 6186
**Location:** 10382 Boundary Rd
**Start Date:** 1st Quarter 1995
**End Date:** 4th Quarter 2004

The Boundary Rehabilitation project provides comprehensive programmatic rehabilitation of major equipment, auxiliary systems, support features, and recreational facilities at the Boundary Hydroelectric Facility. These measures improve plant reliability, increase its operating life, provide consistency with current industry practice and technology, and strategically position the facility for upcoming relicensing negotiations with the Federal Energy Regulatory Commission (FERC).

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **35,604** | **14,193** | **6,964** | **1,436** | **0** | **0** | **0** | **0** | **58,197** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Boundary Dam - Service Area Improvements

**Program:** Generation
**Type:** Improved Facility
**Project ID:** 6347
**Location:** 10382 Boundary Rd
**Start Date:** 1st Quarter 2003
**End Date:** 1st Quarter 2006

This project implements the conceptual design for service area improvements and an inventory control system. The service area is located at the northernmost area of the site, from the powerhouse access road to the Canadian Border, and contains facilities that support power generation operations. Facilities in the service area include the oil house, garage, shipping/receiving building, warehouse, and storage yards.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **745** | **368** | **1,328** | **31** | **0** | **0** | **2,472** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Boundary Dam - Sluice Maintenance Gate Overhaul

**Program:** Generation
**Type:** Improved Facility
**Project ID:** 6348
**Start Date:** 1st Quarter 2003
**End Date:** 4th Quarter 2004

**Location:** 10382 Boundary Rd

Overhaul of the sluice maintenance gate is recommended every 15 to 20 years. The gate is located underwater, so the extent of the work cannot be determined until it is floated ashore. This project designs a method for "floating" the maintenance gate to the shore, effects necessary repairs, and replaces or refurbishes worn hoist system components.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **599** | **362** | **0** | **0** | **0** | **0** | **961** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Boundary Dam - Spillgate Hoist House Rehab & Oil Control

**Program:** Generation
**Type:** Rehabilitation or Restoration
**Project ID:** 6349
**Start Date:** 1st Quarter 2004
**End Date:** 4th Quarter 2004

**Location:** 10382 Boundary Rd

This project replaces the spillgate hoist houses to provide better weather protection, adequate lighting, and prevention of "critter" intrusions. It also includes designing and installing a method to contain oil spills. The spillgates at Boundary are approximately 40 feet wide and 45 feet high. There are two spillgates, one on either side of the dam. The gates are raised to let water pass through when there is more coming down the river than can be used for generation. The machinery that lifts the gates is contained in the spillgate hoist houses, which are small metal enclosures located on the dam, adjacent to each spillgate. To prevent oil used to lubricate the hoist gear box from ending up in the river, oil containment devices are designed and installed.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **0** | **583** | **0** | **0** | **0** | **0** | **583** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Boundary Dam - Tailrace Recreation Area Improvement

**Program:** Generation
**Type:** Improved Facility
**Project ID:** 6346
**Start Date:** 1st Quarter 2005
**End Date:** 4th Quarter 2007

**Location:** 10382 Boundary Rd

When Boundary Dam was constructed in the 1960s, the FERC licensed Generators 51, 52, 53 and 54. When Generators 55 and 56 were added to the plant in the 1980s, FERC amended the license. Although the amendment required that City Light add more recreational facilities, none have been added due to water and sewer issues. City Light plans to clarify with FERC whether or not further work is necessary in the Tailrace Recreation Area prior to relicensing negotiations. If work is required, this project implements the conceptual plan developed during the Boundary Rehabilitation Project.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **0** | **0** | **215** | **708** | **119** | **0** | **1,042** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Boundary Dam - Transformer Bay Rockfall Mitigation

**Program:** Generation
**Start Date:** 1st Quarter 2003
**Type:** Rehabilitation or Restoration
**End Date:** 3rd Quarter 2005
**Project ID:** 6357

**Location:** 10382 Boundary Rd

This project provides funding for a construction contract to perform rock drilling, as necessary, to run conductor cables from the top of the cliff over the transformer bay or directly into the transformer bays at Boundary, to avoid exposure to rocks falling from the rockface. If this is cost prohibitive, City Light intends to determine and implement an alternative mitigation method, such as using spare outriggers or transformers for emergency repairs.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **226** | **2,458** | **177** | **0** | **0** | **0** | **2,861** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Boundary Dam - Trashrake System

**Program:** Generation
**Start Date:** 1st Quarter 2003
**Type:** Rehabilitation or Restoration
**End Date:** 1st Quarter 2006
**Project ID:** 6338

**Location:** 10382 Boundary Rd

The trashrack (a fixed element which keeps debris out of a generator) was installed when the Boundary Dam was built, to prevent debris from going into the penstocks. This project funds the addition of a trashrake, to remove debris that accumulates in the trashrack. This project performs a thorough underwater inspection of the trashrack and repairs any damage found. It also designs and installs trashrake equipment to keep the racks clear of debris on a regular basis.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **76** | **72** | **1,435** | **19** | **0** | **0** | **1,602** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Boundary Dam - Unit 51 Turbine Runner

**Program:** Generation
**Start Date:** 1st Quarter 1996
**Type:** Rehabilitation or Restoration
**End Date:** 4th Quarter 2004
**Project ID:** 6124

**Location:** 10382 Boundary Rd

The Boundary Unit 51 Turbine Runner overhaul refurbishes the dam's turbine to "as new" condition. This is accomplished by replacing or refurbishing worn turbine components and by installing a new turbine runner. The goals of the project are improved turbine efficiency, increased operational flexibility, and increased overall generating reliability. Major activities include the purchase of a new runner (same design as Units 52, 53 and 54); the purchase of additional turbine components such as self-lubricating bushings; disassembly of the turbine/generator; evaluation of the condition of parts; refurbishment, replacement, or modification of parts; and reassembly with the new, refurbished, or modified parts.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **1,412** | **2,672** | **1,650** | **27** | **0** | **0** | **0** | **0** | **5,761** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Boundary Dam - Unit 52 Turbine Runner

**Program:** Generation
**Type:** Rehabilitation or Restoration
**Project ID:** 6125
**Start Date:** 2nd Quarter 2002
**End Date:** 3rd Quarter 2002

**Location:** 10382 Boundary Rd

The Boundary Unit 52 Turbine Runner overhaul refurbishes the turbine to "as new" condition. This is accomplished by replacing or refurbishing worn turbine components and by installing a new turbine runner. The goals of the project are improved turbine efficiency, increased operational flexibility, and increased overall generating reliability. Major activities include the purchase of a new runner (same design as Units 51, 53 and 54); the purchase of additional turbine components (self lubricating bushings, for example); disassembly of the turbine/generator; evaluation of the condition of parts; refurbishment, replacement, or modification of parts; and reassembly with the new, refurbished, or modified parts.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **5,258** | **250** | **0** | **0** | **0** | **0** | **0** | **0** | **5,508** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Boundary Dam - Unit 53 Turbine Runner

**Program:** Generation
**Type:** Rehabilitation or Restoration
**Project ID:** 6126
**Start Date:** 1st Quarter 1996
**End Date:** 1st Quarter 2003

**Location:** 10382 Boundary Rd

The Boundary Unit 53 Turbine Runner overhaul refurbishes the Dam's turbine to "as new" condition. This is accomplished by replacing or refurbishing worn turbine components and by installing a new turbine runner. The goals for this project are improved turbine efficiency, increased operational flexibility, and increased overall generating reliability. Major activities include the purchase of a new runner (same design as Units 51, 52 and 54); the purchase of additional turbine components such as self lubricating bushings; disassembly of the turbine/generator; evaluation of the condition of parts; refurbishment, replacement, or modification of parts; and reassembly with the new, refurbished, or modified parts.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **3,989** | **1,487** | **1** | **0** | **0** | **0** | **0** | **0** | **5,477** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Boundary Dam - Unit 55 Generator Rebuild

**Program:** Generation
**Type:** Rehabilitation or Restoration
**Project ID:** 6303
**Location:** 10382 Boundary Rd

**Start Date:** 1st Quarter 2007
**End Date:** 1st Quarter 2009

This project is part of the Utility's Generator Rebuild Program. The program rebuilds ten generators (accounting for 70% of City Light's generating capability) by the end of 2013. This project repairs the stator of the Unit 55 Generator, which has been damaged by long-term exposure to excessive vibration inherent in the original generator design. (The stator is the stationary hollow cylinder in which the magnet rotates to generate electricity.) Although the vibration problem was resolved in the mid-1990s, the life of the stator was reduced by exposure to more than 15 years of severe vibration.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **0** | **0** | **0** | **0** | **6,387** | **776** | **7,163** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Boundary Dam - Units 51-54 Turbine Pit Cranes

**Program:** Generation
**Type:** Rehabilitation or Restoration
**Project ID:** 6350
**Location:** 10382 Boundary Rd

**Start Date:** 1st Quarter 2003
**End Date:** 3rd Quarter 2003

This project installs monorail hoist systems in the Units 51-54 turbine pits. Units 55 and 56 currently have monorail hoists, which facilitate maintenance and assembly of wicket gate linkages and other components in the turbine pits. Plant personnel have found that the monorail hoist systems in Units 55 and 56 have reduced the difficulty of and time required for maintenance. Similar advantages are realized by installing monorail hoists in the other four turbine pits.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **79** | **0** | **0** | **0** | **0** | **0** | **79** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Boundary Dam - Units 51-56 Control Board Upgrade

**Program:** Generation
**Type:** Rehabilitation or Restoration
**Project ID:** 6343
**Location:** 10382 Boundary Rd

**Start Date:** 1st Quarter 2003
**End Date:** 3rd Quarter 2007

This project provides funding for a purchase and install contract with an electrical contractor or supplier for the upgrade and/or replacement of Unit 51-56 unit control boards, as necessary, to provide full interface with a new network-based control system. Located on the powerhouse floor at each turbine/generator unit, Unit Control Boards control the operation of the units.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **120** | **182** | **1,311** | **182** | **47** | **0** | **1,842** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Boundary Dam - Units 51-56 Governor Controls Upgrade

**Program:** Generation
**Start Date:** 1st Quarter 2005
**Type:** Rehabilitation or Restoration
**End Date:** 3rd Quarter 2008
**Project ID:** 6340

**Location:** 10382 Boundary Rd

This project provides funding for a purchase and install contract with an electrical contractor or supplier to upgrade and/or replace Units 51-56 governor controls. This work maintains reliability and availability, and interfaces with a new network-based control system.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **0** | **0** | **369** | **1,278** | **164** | **55** | **1,866** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Boundary Dam - Units 51-56 Penstock Flow Monitoring

**Program:** Generation
**Start Date:** 1st Quarter 2004
**Type:** Rehabilitation or Restoration
**End Date:** 2nd Quarter 2004
**Project ID:** 6383

**Location:** 10382 Boundary Rd

This project installs a permanent means of monitoring water flow in the turbines, either by installing acoustic flow meters or by providing accurate calibration and appropriate instrumentation to support the use of the existing differential pressure monitoring method.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **0** | **183** | **0** | **0** | **0** | **0** | **183** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Boundary Dam Elevator Improvements

**Program:** Generation
**Start Date:** 3rd Quarter 2003
**Type:** Improved Facility
**End Date:** 2nd Quarter 2005
**Project ID:** 6355

**Location:** 10382 Boundary Rd

This project provides funding for a purchase and install contract to repair and/or upgrade the elevator at the Boundary Dam. Upgrades improve function and restore reliability.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **51** | **602** | **151** | **0** | **0** | **0** | **804** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Boundary Dam Safety Improvements

**Program:** Generation
**Type:** Improved Facility
**Project ID:** 6161
**Location:** 10382 Boundary Rd

**Start Date:** 1st Quarter 1991
**End Date:** 4th Quarter 2004

The Boundary Dam Safety Improvements project implements corrective actions required by the Federal Energy Regulatory Commission (FERC) to reduce dam failure risk. This is part of a special dam safety review that began in 1990. Projects completed to date include installing a drainage system to reduce foundation water pressures, installing an anchoring system to strengthen the left spillway abutment rock, strengthening the dam elevator tower to resist earthquakes, and reviewing dam safety instrument data to make sure that the dam and foundation are stable. The work to be completed in 2003 and 2004 includes designing and installing an improved dam safety monitoring system.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **9,776** | **722** | **1,061** | **294** | **0** | **0** | **0** | **0** | **11,853** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Boundary Forebay Recreation Area Improvements

**Program:** Generation
**Type:** Rehabilitation or Restoration
**Project ID:** 6345
**Location:** 10382 Boundary Rd

**Start Date:** 1st Quarter 2005
**End Date:** 2nd Quarter 2007

When the Boundary Dam was constructed in the 1960s, the Federal Energy Regulatory Commission (FERC) licensed Generators 51, 52, 53 and 54. When Generators 55 and 56 were added to the plant in the 1980s, FERC amended the license. Although the amendment required that City Light add more recreational facilities, to date City Light has not done so due to water and sewer issues. City Light plans to clarify with FERC whether or not further work is necessary in the Forebay Recreation Area prior to relicensing negotiations. If work is required, this project implements the conceptual plan developed during the Boundary Rehabilitation Project.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **0** | **0** | **43** | **671** | **27** | **0** | **741** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Boundary Vista House Recreation Area Improvements

**Program:** Generation
**Type:** Improved Facility
**Project ID:** 6384
**Start Date:** 1st Quarter 2003
**End Date:** 1st Quarter 2005

**Location:** 10382 Boundary Rd

City Light plans to clarify with Federal Energy Regulatory Commission (FERC) whether or not further work is necessary in the Vista House Recreation Area prior to relicensing negotiations. If work is required, this project implements the conceptual plan developed during the Boundary Rehabilitation Project. If the work is not required, City Light intends to reprioritize its work plan and reallocate the funds to similar projects.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **47** | **128** | **14** | **0** | **0** | **0** | **189** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Broad Street Substation Networks

**Program:** Distribution
**Type:** Improved Facility
**Project ID:** 8203
**Start Date:** 1st Quarter 1999
**End Date:** 4th Quarter 2008

**Location:** 6th AV N and Broad St
**Neighborhood District:** Downtown
**Neighborhood Plan:** Not in a Neighborhood Plan

The Broad Street Substation Networks project provides added capacity and improved electrical system reliability to City Light customers in the Broad Street Substation service area. The project ensures that existing customers have reliable electric service and new customers can be connected to the system. Work may include installing new civil facilities (vaults and conduits), reconductoring and relocating primary feeders, upgrading network transformers, adding and separating secondary bus ties, installing fire wrap on cables, transferring load between networks (cuts and taps), installing real time ampacity equipment, installing primary switches for load transfer or sectionalizing, installing or replacing network protectors, installing fire protection systems, and rebalancing feeders.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **4,787** | **4,860** | **4,042** | **4,698** | **4,634** | **4,743** | **4,868** | **4,962** | **37,594** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Cedar Falls - Habitat Conservation Plan

**Program:** Generation
**Type:** Improved Facility
**Project ID:** 6214
**Start Date:** 1st Quarter 2000
**End Date:** 4th Quarter 2004

**Location:** 19901 Cedar Falls Rd SE

The Cedar Falls Habitat Conservation Plan project implements environmental mitigation measures for the Cedar Falls Hydroelectric Project. This action is required to meet City Light's contribution to the Cedar River Habitat Conservation Plan. City Light's efforts combine with mitigation and enhancement projects funded by Seattle Public Utilities.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **1,441** | **2,320** | **428** | **47** | **0** | **0** | **0** | **0** | **4,236** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Cedar Falls - Intake Gate Replacement

**Program:** Generation
**Type:** New Facility
**Project ID:** 6171
**Start Date:** 1st Quarter 1993
**End Date:** 4th Quarter 2003

**Location:** 19901 Cedar Falls Rd SE

The Cedar Falls Intake Gate Replacement project provides a new intake gate at the Cedar Falls Masonry Dam. The project's major activities (installing and testing the intake gate) occurred in 1999-2000. A Dam Failure Emergency Warning System remains to be installed in 2003.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **5,352** | **451** | **82** | **0** | **0** | **0** | **0** | **0** | **5,885** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Cedar Falls - Rehab/Reline Penstocks

**Program:** Generation
**Type:** Rehabilitation or Restoration
**Project ID:** 6358
**Start Date:** 1st Quarter 2006
**End Date:** 4th Quarter 2008

**Location:** 19901 Cedar Falls Rd SE

This project repairs the two penstocks at Cedar Falls. A penstock is a conduit or pipeline through which water travels to run the turbines and generate power. The project includes relining the upper portions of the penstocks, performing a seismic upgrade of penstock bridges, repairing sagging or broken penstock support saddles, and touching up exterior paint.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **0** | **0** | **0** | **569** | **3,772** | **3,906** | **8,247** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Central Arterial Streetlights Major Maint.

**Program:** Distribution
**Type:** Rehabilitation or Restoration
**Project ID:** 8212
**Start Date:** 1st Quarter 2000
**End Date:** 4th Quarter 2008

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The Central Arterial Streetlights Major Maintenance project provides necessary capital improvements and replacements to the City of Seattle's arterial streetlights in the downtown streetlight system in order to maintain right-of-way illumination in street rights-of-way. The City transferred ownership of 18,600 arterial streetlights to City Light at the end of 1999. Of those 18,600 streetlights, 5,000-6,000 lights are on poles installed exclusively for streetlighting. Many of these are fed underground. Work for 2003-2004 includes: streetlight pole and foundation work in Belltown; installation of streetlights on the west side of Elliott Avenue for the Olympic Sculpture Park; and installation of streetlights associated with Phase I of the Denny Triangle Green Streets Project.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **221** | **422** | **719** | **740** | **778** | **797** | **818** | **834** | **5,329** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Communications Improvements

**Program:** Distribution
**Type:** Improved Facility
**Project ID:** 9009
**Start Date:** Ongoing
**End Date:** Ongoing

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The purpose of the Communications Improvements project is to provide for unforeseen emergency work on City Light's communications systems. This ongoing program provides funding to replace critical communications components required due to failure, changing regulatory requirements, or requirements for upgrades.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **243** | **195** | **240** | **236** | **202** | **205** | **210** | **214** | **1,745** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Consolidated Customer Service System

**Program:** Finance & Administration
**Type:** Improved Facility
**Project ID:** 9910
**Start Date:** 1st Quarter 1995
**End Date:** 4th Quarter 2008

**Location:** 700 5th Avenue

**Neighborhood District:** Downtown **Neighborhood Plan:** Not in a Neighborhood Plan

The Consolidated Customer Service System (CCSS) is a single customer information system supporting both City Light and SPU's the billing and customer support functions. The system was built using the Banner commercial software package, with some custom modifications.

Plans for CCSS during 2003 and 2004 include the system's first major upgrade to a new version of the Banner product. The newer version of Banner offers improvements that directly address the challenges the City has faced using CCSS in its first year. These improvements include better tools for performing billing adjustments, better account processes, easier navigation within the system, improved displays of account information, and enhanced management reporting. In addition, this version is built with newer database and hardware components that are better supported by their respective vendors, Oracle and IBM. City Light is negotiating with the vendor to include many of the City's modifications as part of the baseline product in this upgrade release. This avoids both programming and future operations costs.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **47,801** | **1,988** | **2,972** | **3,330** | **0** | **0** | **0** | **0** | **56,091** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Customer Data Services (CMart)

**Program:** Finance & Administration
**Start Date:** 1st Quarter 2001
**Type:** Improved Facility
**End Date:** 4th Quarter 2008
**Project ID:** 9926

**Location:** 700 5th Avenue

**Neighborhood District:** Downtown
**Neighborhood Plan:** Not in a Neighborhood Plan

The purpose of the Customer Data Services (CMart) project is to provide a data repository to support query, ad hoc reporting, and data extract demands of City Light staff. The system provides premise, meter, consumption, billing, technical metering, and meter reading data by extracting and centralizing data from various systems including the Consolidated Customer Service System (CCSS), Itron, City Light Advanced Meter System (CLAMS), and the Industrial and Commercial Subsidiary Billing (ICSB). This allows City Light staff to quickly respond to customer inquiries, identify future marketing areas, and resolve customer billing and service issues in a proactive and timely manner by providing high level summary reporting as well as more detailed reports.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **3,319** | **2,028** | **1,631** | **1,571** | **0** | **0** | **0** | **0** | **8,549** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Dam Safety Program

**Program:** Generation
**Start Date:** 1st Quarter 2003
**Type:** Rehabilitation or Restoration
**End Date:** 4th Quarter 2008
**Project ID:** 6389

This project upgrades the safety requirements of all of the dams in the City Light system as required by the Federal Energy Regulatory Commission (FERC).

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **125** | **108** | **134** | **138** | **140** | **142** | **787** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Diablo Dam - Automate Spillgates

**Program:** Generation
**Start Date:** 1st Quarter 2005
**Type:** Improved Facility
**End Date:** 4th Quarter 2006
**Project ID:** 6359

**Location:** Milepost 126 State Highway 20

This project installs automatic hoists for Gates 17, 18, and 19 at Diablo Dam similar to those for Gates 1, 2, and 3. The project also includes purchase of a second mule hoist, which is a portable winch that is manually moved from gate to gate and used for raising and lowering the spillway gates.

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| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **0** | **0** | **82** | **590** | **0** | **0** | **672** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Diablo Dam - Spillgate Control Improvements

**Program:** Generation
**Start Date:** 1st Quarter 2000
**Type:** Improved Facility
**End Date:** 1st Quarter 2004
**Project ID:** 6238

**Location:** Milepost 126 State Highway 20

The Diablo Dam Spillgate Control Improvements project replaces the motor starters and controls for the three Diablo Dam motorized spillgates. This project includes gate-status and opening-height transducers and analog data transponders. Safety disconnect switches and motor-current limiters also are installed.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **4** | **115** | **293** | **11** | **0** | **0** | **0** | **0** | **423** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Diablo Powerhouse - Replace 5 kV Switchgear

**Program:** Generation
**Start Date:** 1st Quarter 2006
**Type:** Rehabilitation or Restoration
**End Date:** 4th Quarter 2007
**Project ID:** 6364

**Location:** Milepost 126 State Highway 20

This project replaces the existing 5 kV switchgear in Diablo Powerhouse with a new 5 kV switchgear system.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **0** | **0** | **0** | **517** | **533** | **0** | **1,050** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Diablo Powerhouse - Replace Control and Power

**Program:** Generation
**Start Date:** 1st Quarter 2007
**Type:** Rehabilitation or Restoration
**End Date:** 4th Quarter 2008
**Project ID:** 6363

**Location:** Milepost 126 State Highway 20

This project replaces aging control and power cables in the Diablo Powerhouse.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **0** | **0** | **0** | **0** | **365** | **377** | **742** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Diablo Powerhouse - Replace Units 31-32 Governors

**Program:** Generation
**Start Date:** 1st Quarter 2008
**Type:** Rehabilitation or Restoration
**End Date:** 4th Quarter 2009
**Project ID:** 6366

**Location:** Milepost 126 State Highway 20

This project replaces the governors on Generator Units 31 and 32. The governor is the part of the turbine/generator that controls the amount of water going through the turbine, and thereby controls the amount of power generated.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **266** | **266** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Diablo Powerhouse - Upgrade Annunciator System

**Program:** Generation
**Start Date:** 1st Quarter 2005
**Type:** Rehabilitation or Restoration
**End Date:** 4th Quarter 2005
**Project ID:** 6367

**Location:** Milepost 126 State Highway 20

This project replaces and upgrades the annunciator system at Diablo Powerhouse, which is the alarm system that monitors various portions of the generating system.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **0** | **0** | **346** | **0** | **0** | **0** | **346** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Diablo Powerhouse DC Lighting Systems Upgrade

**Program:** Generation
**Start Date:** 1st Quarter 2004
**Type:** Rehabilitation or Restoration
**End Date:** 4th Quarter 2005
**Project ID:** 6365

**Location:** Milepost 126 State Highway 20

This project replaces out-of-date AC/DC lighting systems at Diablo Powerhouse with more energy-efficient systems.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **0** | **120** | **218** | **0** | **0** | **0** | **338** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Diablo Sewer System Improvement

**Program:** Generation
**Type:** Rehabilitation or Restoration
**Project ID:** 6232
**Location:** Milepost 126 State Highway 20

**Start Date:** 1st Quarter 1999
**End Date:** 1st Quarter 2008

The Diablo Sewer System Improvement project repairs numerous sewer pipe breaks, leaks, and sags in the combined Diablo sewer/drainage collection system to eliminate overloads in the sewage treatment plant, pollution of Skagit River, and contamination of soil.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **1** | **0** | **0** | **0** | **0** | **95** | **845** | **9** | **950** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Diablo Switchyard Resurfacing

**Program:** Generation
**Type:** Rehabilitation or Restoration
**Project ID:** 6361
**Location:** 502 Diablo St

**Start Date:** 1st Quarter 2005
**End Date:** 4th Quarter 2005

This project resurfaces the Diablo Switchyard.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **0** | **0** | **375** | **0** | **0** | **0** | **375** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Diablo Water System Improvements

**Program:** Generation
**Type:** Improved Facility
**Project ID:** 6304
**Location:** Milepost 126 State Highway 20

**Start Date:** 1st Quarter 2003
**End Date:** 2nd Quarter 2005

This project improves provision of water supply for the town of Diablo. Four subprojects provide a booster pump, backflow protection, a new well, and an upgraded tailrace pipe.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **284** | **221** | **24** | **0** | **0** | **0** | **529** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Disaster Recovery/Business Continuity

**Program:** Finance & Administration
**Type:** Improved Facility
**Project ID:** 9925
**Start Date:** 1st Quarter 2001
**End Date:** 4th Quarter 2007

**Location:** 700 5th Avenue

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The Disaster Recovery/Business Continuity Planning project minimizes damage to City Light, its employees, and customers. Sensitive information, City Light's reputation for providing reliable energy and services, legal liabilities, intellectual property, and individual customer service requirements are at stake. This project involves acquiring and utilizing software, hardware and services to analyze risks; developing recovery and continuity mechanisms and infrastructure; and exercising disaster test scenarios.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **77** | **512** | **49** | **122** | **447** | **977** | **240** | **0** | **2,424** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Distribution Area Communications Networks

**Program:** Distribution
**Type:** Improved Facility
**Project ID:** 9307
**Start Date:** 1st Quarter 1999
**End Date:** 4th Quarter 2008

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

This project provides fiber rings to City Light facilities to create a secure digital communications network for Distribution system operations and control. The fiber infrastructure provides a secure path for power distribution system control and dispatch, Energy Management System data, and other City Light communications that support Substation Automation, Distribution Automation, Distributed Generation, and automated meter reading.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **710** | **1,359** | **470** | **621** | **655** | **670** | **688** | **701** | **5,874** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Distribution Automated Mapping System

**Program:** Finance & Administration
**Type:** Rehabilitation or Restoration
**Project ID:** 9905
**Start Date:** 2nd Quarter 1992
**End Date:** 4th Quarter 2008

**Location:** 700 5th Avenue
**Neighborhood District:** Downtown
**Neighborhood Plan:** Not in a Neighborhood Plan

The Distribution Automated Mapping System project provides electronic geographic mapping data to model City Light's distribution system. This application provides timely and accurate information about City Light's distribution system to help facilitate the uninterrupted delivery of power to customers. The system supports automated mapping and analytical tools for system maintenance and operation. Integration work with the utilities work management, facilities management, and the customer information system is planned. Funding allows the project to leverage its initial investment by using the geographical information system (GIS) for service and operational purposes. A technology refresh of the system is planned to ensure continued system stability.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **20,132** | **1,187** | **1,154** | **1,211** | **1,332** | **1,405** | **1,482** | **1,550** | **29,453** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Downtown Substation - Preliminary Engineering

**Program:** Distribution
**Type:** New Facility
**Project ID:** 7754
**Start Date:** 1st Quarter 2002
**End Date:** 4th Quarter 2008

**Location:** Citywide
**Neighborhood District:** Downtown
**Neighborhood Plan:** Not in a Neighborhood Plan

The Downtown Substation - Preliminary Engineering project researches property acquisition options and performs preliminary engineering to determine timing of construction of a new substation. A new substation ensures that adequate capacity to serve Downtown and First Hill customers is maintained.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **202** | **496** | **1** | **1** | **3** | **3** | **3** | **3** | **712** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Drawing Conversions - Seattle City Light

**Program:** Finance & Administration
**Type:** Improved Facility
**Project ID:** 9909
**Start Date:** 1st Quarter 1995
**End Date:** 2nd Quarter 2003

**Location:** 700 5th Avenue
**Neighborhood District:** Downtown
**Neighborhood Plan:** Not in a Neighborhood Plan

The purpose of the Drawing Conversions project is to convert City Light's paper engineering drawings to electronic computer format. Computer technology updates and maintains drawings to provide engineers and field crews with more accurate documents. The multi-year proposal directly supports the generation system rehabilitation projects, the recommendations from the CIP Review performed by R.W. Beck, and the Information Technology Strategic Plan. An upgrade of the drawing and document management occurred in 2002. The remaining items for this CIP are closeout tasks associated with the organization, business processes, and production use of engineering drawings for Power Stations and Generation.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **5,663** | **550** | **43** | **0** | **0** | **0** | **0** | **0** | **6,256** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## E3 Busway Transmission Ducts

**Program:** Distribution
**Type:** Rehabilitation or Restoration
**Project ID:** 7102
**Start Date:** 1st Quarter 2002
**End Date:** 4th Quarter 2002

**Location:** 600 S Royal Brougham Wy
**Neighborhood District:** Greater Duwamish
**Neighborhood Plan:** Not in a Neighborhood Plan

The purpose of the E3 Busway Transmission Ducts project is to secure the rights for City Light to occupy the E3 Busway, and design and install several electrical duct banks for the installation of City Light transmission.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **124** | **0** | **0** | **0** | **0** | **0** | **0** | **124** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Elevated Transportation Company - City Light

**Program:** Distribution
**Type:** Rehabilitation or Restoration
**Project ID:** 8306
**Start Date:** 1st Quarter 2002
**End Date:** 4th Quarter 2008

The Elevated Transportation Company (ETC) is planning an initial 14-mile monorail route between Ballard and West Seattle that would travel through downtown Seattle. A preferred alignment and financing plan were approved by Seattle voters in November 2002. This project designs relocations of City Light's electrical distribution and transmission systems affected by monorail construction. Electrical service connection planning and design are also included in budgeted work. The project CIP budget does not include funding for any City Light construction-related costs.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **169** | **345** | **461** | **2,157** | **2,215** | **874** | **1,221** | **7,442** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Endangered Species Act Mitigation

**Program:** Executive
**Type:** New Facility
**Project ID:** 6990
**Location:** Various

**Start Date:** 1st Quarter 2000
**End Date:** 4th Quarter 2008

The purpose of the Endangered Species Act (ESA) Mitigation project is to provide habitat protection and restoration benefits to Chinook salmon so that the City meets its ESA commitments under the Early Action Proposal (EAP) adopted by City Council in March 1999. The EAP includes habitat acquisition and protection in the four Puget Sound watersheds where the City has primary operational interests (Skagit, Snohomish, Cedar/Lake Washington, and the Green/Duwamish) and a research and monitoring program.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **1,165** | **2,343** | **802** | **856** | **581** | **701** | **615** | **740** | **7,803** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Environmental Learning Center

**Program:** Generation
**Type:** New Facility
**Project ID:** 6988
**Location:** 500 Newhalem St

**Start Date:** 1st Quarter 2000
**End Date:** 1st Quarter 2005

This project constructs 16 new one-story, wood-frame buildings and remodels one existing building (for a total of approximately 33,400 square feet). The project includes a new commercial kitchen; a new propane fuel system; the removal of old kitchen equipment in the dining hall and some fire hydrants; a parking area and access roads; shoreline restoration; landscaping and revegetation, including pathways, planting and seeding, rock retaining walls, irrigation and exterior lighting; a new floating dock; a new amphitheater; modifying the water supply system, including installing a new water tank, well pump, and chlorination system; modifying the sanitary sewer system; trenching and conduit for new underground utilities; conduit for data communications; new signage; an entry gate structure and outdoor seating areas; and fire sprinkler system. The Memorandum of Agreement between the City of Seattle (City Light), the US Department of the Interior National Park Service (North Cascades National Park), and the North Cascades Institute provides that the National Park Service is responsible for the sewer and water system and City Light is responsible for other construction costs, plus certain operation and maintenance costs.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **83** | **14,085** | **2,672** | **297** | **19** | **0** | **0** | **0** | **17,156** |
| ***O&M Costs (Savings)*** | | | N/C | 49 | 50 | 52 | 53 | 54 | **258** |

**Amounts in thousands of dollars*

## Facilities ADA and Regulatory Compliance

**Program:** Finance & Administration
**Type:** Improved Facility
**Project ID:** 9151
**Start Date:** 1st Quarter 1998
**End Date:** 4th Quarter 2008

**Location:** 500 Newhalem St

The Facilities ADA and Regulatory Compliance project provides barrier-free, code-compliant facilities for employees and customers to preserve and reinforce City Light's leadership position on environmental and accessibility initiatives. Many of the public facilities at the Skagit Hydroelectric Site support recreational activities within the National Park and also serve the Skagit Tours program. All of these public areas are subject to the regulations outlined in the Americans with Disabilities Act (ADA). Many modifications have already been made by the Skagit Facilities staff, with special focus on tourist facilities. Continued efforts to achieve equal access require modification to building entrances and ramps, dining accommodations, restrooms, and parking. Projects are located at Skagit, Boundary, Key Tower and Service Centers.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **8** | **0** | **0** | **0** | **91** | **93** | **95** | **97** | **384** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Facilities Environmental Remediation

**Program:** Finance & Administration
**Type:** Improved Facility
**Project ID:** 9152
**Start Date:** 1st Quarter 1997
**End Date:** 3rd Quarter 2009

**Location:** Various

The Facilities Environmental Remediation project prevents air and water pollution at City Light facilities and improves hazardous material handling. This project implements cost-appropriate solutions for environmental problems, when identified, and provides facilities to meet environmental and remediation concerns. Typical projects include providing ventilation for painting and sandblasting operations and providing storage for toxic materials.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **642** | **28** | **48** | **0** | **150** | **156** | **161** | **163** | **1,348** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Facility Security

**Program:** Finance & Administration
**Type:** Improved Facility
**Project ID:** 9154
**Start Date:** 1st Quarter 1998
**End Date:** 4th Quarter 2008

**Location:** Various

The purpose of the Facility Security project is to provide personal safety and protection for buildings and equipment at locations such as service centers, substations, and power generation sites to provide a safe workplace for employees and protect assets to assure uninterrupted power delivery to City Light's customers. This project involves designing and installing effective intrusion alarm systems and implementing procedures to improve security at powerhouses. The program of improvements is based on a security study performed in 1998. Intrusion deterrent hardware may include improved doors and locks to prevent access, motion detectors to reduce false alarms, and audio/light devices activated upon intrusion. Central station monitoring is included.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **155** | **0** | **0** | **0** | **122** | **127** | **131** | **133** | **668** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Fire Protection Systems Modification

**Program:** Generation
**Type:** Improved Facility
**Project ID:** 6166
**Start Date:** 1st Quarter 1993
**End Date:** 1st Quarter 2005

**Location:** Various

The Fire Protection Systems Modification project procures and installs a refrigerated carbon dioxide storage tank, operating at 300 psi. This system protects generators, the oil rooms, and the station service room. An advanced smoke detection system for early warning is installed for the control, relay, and communications rooms.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **1,381** | **0** | **0** | **848** | **32** | **0** | **0** | **0** | **2,261** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## First Hill Network

**Program:** Distribution
**Type:** Improved Facility
**Project ID:** 8301
**Start Date:** 1st Quarter 2002
**End Date:** 4th Quarter 2008
**Location:** 1100 Madison St
**Neighborhood District:** Downtown
**Neighborhood Plan:** Not in a Neighborhood Plan

The purpose of the First Hill Network project is to provide added capacity and improved reliability of the electrical system to City Light customers in the First Hill service area so that the existing customers have reliable electric service and new customers are connected to the system. Work includes installation of new civil facilities (vaults and conduits) and reconductoring and relocation of primary feeders. Other work includes installation of fire wrap on cables, replacement of non-submersible network protectors, and rebalancing network feeders (cuts and taps). Future work includes upgrades to network transformers, additions and separations of secondary bus ties, installation of bus tie switches, replacement of failed cables, and related work.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **77** | **2,134** | **1,081** | **1,102** | **1,127** | **1,156** | **1,178** | **7,855** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Generation - Civil-Mechanical Modification

**Program:** Generation
**Type:** Improved Facility
**Project ID:** 6005
**Start Date:** Ongoing
**End Date:** Ongoing
**Location:** Various

The purpose of the Generation - Civil-Mechanical Modification project is to provide a financial placeholder for unscheduled capital work. This project covers miscellaneous and small unscheduled improvements.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **304** | **1,349** | **1,291** | **1,063** | **1,252** | **1,285** | **1,317** | **1,338** | **9,199** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Generation - Electrical Enhancements

**Program:** Generation
**Type:** Improved Facility
**Project ID:** 6087
**Start Date:** Ongoing
**End Date:** Ongoing
**Location:** Various

The purpose of the Generation Electrical Enhancements project is to provide a financial placeholder for unscheduled capital projects. This project covers miscellaneous and small unscheduled improvements.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **307** | **846** | **881** | **979** | **914** | **935** | **957** | **973** | **6,792** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Gorge Dam - Spillgate Control Improvements

**Program:** Generation
**Type:** Improved Facility
**Project ID:** 6222
**Start Date:** 1st Quarter 2001
**End Date:** 2nd Quarter 2004

**Location:** Milepost 121 State Highway 20

The Gorge Dam Spillgate Control Improvements project replaces the motor starters and controls for the two Gorge Dam spillgates. Included for replacement are the gate-status and opening-height transducers and related telecommunications equipment.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **40** | **93** | **151** | **37** | **0** | **0** | **0** | **0** | **321** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Gorge Dam - Spillgate Rehabilitation

**Program:** Generation
**Type:** Rehabilitation or Restoration
**Project ID:** 6221
**Start Date:** 1st Quarter 2007
**End Date:** 1st Quarter 2008

**Location:** Milepost 121 State Highway 20

The Gorge Dam Spillgate Rehabilitation project provides inspection and repairs to the two spillgates to prevent loss of structural integrity. The Gorge Dam contains two 47- by 50-foot vertical-lift spillgates which regulate the river flow during floods and increase the capability to generate electricity during normal flows. The project replaces deteriorated bolts, a condition observed in 1997 during seal-replacement work on gate #1. The same condition is assumed to exist on gate #2.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **0** | **0** | **0** | **0** | **1,471** | **47** | **1,518** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Gorge Dam - Unit 24 Turbine-Runner Overhaul

**Program:** Generation
**Type:** Rehabilitation or Restoration
**Project ID:** 6219
**Start Date:** 1st Quarter 1999
**End Date:** 4th Quarter 2007

**Location:** Milepost 121 State Highway 20

The Gorge Dam - Unit 24 Turbine-Runner Overhaul project refurbishes the turbine to "as-new" condition. Work includes replacing or refurbishing worn turbine components and installing a new turbine runner. This project is part of the programmatic turbine rehabilitation program to overhaul and upgrade City Light's aging hydroelectric turbines. Along with the runner replacement, new seal rings, self-lubricating bushings, and wicket-gate refurbishment are provided.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **21** | **11** | **0** | **1,742** | **1,153** | **2,755** | **560** | **0** | **6,242** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Gorge Powerhouse - 240 kV Oil-filled Circuit Breakers

**Program:** Generation
**Type:** Improved Facility
**Project ID:** 6226
**Start Date:** 1st Quarter 1999
**End Date:** 4th Quarter 2004

**Location:** Milepost 121 State Highway 20

The Gorge Powerhouse - 240 kV Oil-filled Circuit Breakers (OCB) project replaces out-of-date circuit breakers at the Gorge Powerhouse with SF-6 gas circuit breakers. The project replaces the four oil-filled circuit breakers at the Gorge Switchyard.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **529** | **324** | **299** | **609** | **0** | **0** | **0** | **0** | **1,761** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Gorge Powerhouse - AC/DC Distribution System

**Program:** Generation
**Type:** Rehabilitation or Restoration
**Project ID:** 6207
**Start Date:** 1st Quarter 1998
**End Date:** 2nd Quarter 2004

**Location:** Milepost 121 State Highway 20

The Gorge Powerhouse AC/DC Distribution System project replaces DC distribution panels, unitizes DC control and alarm circuits to individual generators, provides AC station service grounding, and replaces AC distribution panels and branch circuits in Gorge Powerhouse to improve efficiency and reliability.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **29** | **424** | **333** | **27** | **0** | **0** | **0** | **0** | **813** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Gorge Powerhouse - Control and Power Cabling Replacement

**Program:** Generation
**Type:** Rehabilitation or Restoration
**Project ID:** 6328
**Start Date:** 1st Quarter 2006
**End Date:** 4th Quarter 2008

**Location:** Milepost 121 State Highway 20

This project replaces deteriorating control and power cabling within the Gorge Powerhouse. Work reduces troubleshooting time spent tracing ground faults, eases installation of future projects, and increases generator availability.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **0** | **0** | **0** | **194** | **202** | **307** | **703** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Gorge Powerhouse - Generator Hall and High Room Lighting

**Program:** Generation
**Start Date:** 1st Quarter 2006
**Type:** Rehabilitation or Restoration
**End Date:** 4th Quarter 2007
**Project ID:** 6330

**Location:** Milepost 121 State Highway 20

This project replaces the lighting fixtures and wiring in the main generator hall and high room at the Gorge Powerhouse.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **0** | **0** | **0** | **249** | **257** | **0** | **506** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Gorge Powerhouse - Programmable Logic Controllers

**Program:** Generation
**Start Date:** 1st Quarter 2006
**Type:** Rehabilitation or Restoration
**End Date:** 4th Quarter 2006
**Project ID:** 6369

**Location:** Milepost 121 State Highway 20

This project replaces the relays at the Gorge Powerhouse with programmable-logic controllers (PLCs). The relays to be replaced are part of the Gorge Powerhouse annunciator system. PLCs are the current electrical devices used in place of the old relay system.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **0** | **0** | **0** | **231** | **0** | **0** | **231** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Gorge Powerhouse - Transformer Bank 10 Replacement

**Program:** Generation
**Start Date:** 3rd Quarter 2000
**Type:** Rehabilitation or Restoration
**End Date:** 1st Quarter 2005
**Project ID:** 6224

**Location:** Milepost 121 State Highway 20

The Gorge Transformer Bank 10 Replacement project removes the oil transformer and its conductors and provides a dry transformer and conductors to the Gorge Powerhouse to ensure reliability and prevent environmental exposure hazard.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **23** | **0** | **0** | **346** | **19** | **0** | **0** | **0** | **388** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Gorge Powerhouse - Transformer Bank 22 Replacement

**Program:** Generation
**Start Date:** 1st Quarter 2005
**Type:** Rehabilitation or Restoration
**End Date:** 4th Quarter 2006
**Project ID:** 6370

**Location:** Milepost 121 State Highway 20

This project replaces Transformer Bank 22 with a new bank of transformers; the existing transformers are near the end of their useful life.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **0** | **0** | **2,190** | **877** | **0** | **0** | **3,067** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Gorge Powerhouse - Transformer Bank 24 Replacement

**Program:** Generation
**Start Date:** 1st Quarter 2006
**Type:** Rehabilitation or Restoration
**End Date:** 4th Quarter 2007
**Project ID:** 6371

**Location:** Milepost 121 State Highway 20

This project replaces Transformer Bank 24 and purchases a spare transformer for the Diablo and Gorge Powerhouses. The spare transformer can be used to minimize loss of generation in the event of an unexpected failure of one of the existing transformers.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **0** | **0** | **0** | **3,328** | **904** | **46** | **4,278** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Gorge Switchyard Resurfacing

**Program:** Generation
**Start Date:** 1st Quarter 2005
**Type:** Rehabilitation or Restoration
**End Date:** 4th Quarter 2005
**Project ID:** 6362

**Location:** Milepost 121 State Highway 20

This project resurfaces the Gorge Switchyard.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **0** | **0** | **250** | **0** | **0** | **0** | **250** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Information Technology Infrastructure

**Program:** Finance & Administration
**Type:** Improved Facility
**Project ID:** 9915
**Start Date:** Ongoing
**End Date:** Ongoing

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The purpose of the Information Technology Infrastructure project is to provide replacements for aging and obsolete hardware and software that supports City Light's information technology infrastructure and operating environment. Infrastructure is upgraded to address an ever-increasing and sophisticated application base, network load, and new office automation technologies. This project is necessary to maintain a stable computing environment allowing employees to accomplish work requiring automated technology without interruption or loss of productivity. Components purchased and maintained include servers, network and data communications equipment, high speed laser printers and application/OS software. These components are required to meet basic business requirements for City Light's information technologies.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **16,065** | **3,471** | **2,676** | **2,944** | **3,372** | **4,103** | **4,505** | **4,863** | **41,999** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Interbay Substation

**Program:** Distribution
**Type:** New Facility
**Project ID:** 7756
**Start Date:** 4th Quarter 2000
**End Date:** 4th Quarter 2008

This project plans, designs, and constructs a 26-kV substation in the Interbay area. Land was acquired in 2001 and design work is in progress. Additional funding is to be sought for building the substation and others.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **2,291** | **87** | **1** | **1** | **3** | **3** | **3** | **3** | **2,392** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Ladder Creek Water System

**Program:** Generation
**Type:** Rehabilitation or Restoration
**Project ID:** 6234
**Start Date:** 3rd Quarter 1999
**End Date:** 3rd Quarter 2005

**Location:** Milepost 126 State Highway 20

The Ladder Creek Water System project provides an assured supply of irrigation water to Ladder Creek Gardens behind Gorge Powerhouse to provide the historic gardens with sufficient water.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **7** | **0** | **0** | **192** | **215** | **0** | **0** | **0** | **414** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Maple Valley Sno-King 230 kV Line Restoration

**Program:** Distribution
**Type:** Rehabilitation or Restoration
**Project ID:** 7054
**Start Date:** 1st Quarter 2002
**End Date:** 4th Quarter 2002

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

This project restores the Maple Valley to Sno-King 230 kV transmission line consistent with ratings assumed by the Western Systems Coordinating Council (WSCC). Work includes vegetation clearing along right-of-way and line work, including replacement of a tower with a pole, and raising certain conductors to obtain necessary line clearance heights.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **3,588** | **11** | **0** | **0** | **0** | **0** | **0** | **0** | **3,599** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Massachusetts Street Substation Networks

**Program:** Distribution
**Type:** Improved Facility
**Project ID:** 8202
**Start Date:** 1st Quarter 1999
**End Date:** 4th Quarter 2008

**Location:** 1555 Utah AV S

**Neighborhood District:** Greater Duwamish **Neighborhood Plan:** Not in a Neighborhood Plan

The purpose of the Massachusetts Street Substation Networks project is to add capacity and improve reliability of the electrical system for City Light customers in the Massachusetts Street Substation service area. Existing customers continue to have reliable electric service and new customers are connected to the system. Work may include installation of new civil facilities (vaults and conduits), reconductoring and relocation of primary feeders, upgrading network transformers, additions and separations to secondary bus ties, installation of fire wrap on cables, transferring load between networks (cuts and taps), installation of real time ampacity equipment, installation of primary switches for load transfer or sectionalizing, installation or replacement of network protectors, installation of fire protection systems, and rebalancing feeders.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **1,007** | **430** | **307** | **492** | **454** | **465** | **477** | **486** | **4,118** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Mechanical Improvements

**Program:** Finance & Administration
**Type:** Improved Facility
**Project ID:** 9156
**Start Date:** 1st Quarter 1997
**End Date:** 4th Quarter 2008

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The purpose of the Mechanical Improvements project is to provide funding for design, materials, and construction for a variety of HVAC improvement and replacement projects. This is an essential part of maintaining City Light facilities. Examples of projects include installing heat pumps to increase cooling in computer server rooms when equipment additions increase heat loads.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **848** | **27** | **96** | **0** | **236** | **246** | **253** | **257** | **1,963** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Meter Additions

**Program:** Distribution
**Type:** New Facility
**Project ID:** 8054
**Start Date:** Ongoing
**End Date:** Ongoing

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The purpose of the Meter Additions project is to provide new or replacement meters to enable City Light to generate customer bills. There are three types of work in this project: New Services - installation of approximately 5,000 meters annually for new or upgraded commercial and residential customer electrical services. Obsolete Meter Exchanges - Exchange of approximately 12,500 (out of 370,000 in the distribution system) obsolete meters annually. New Technology and Automated Metering Options - Pilot projects to demonstrate new metering devices and systems, including study of micro-turbines, fuel cells, and solar cells to determine the impact on the distribution system and the requirements for net metering.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **2,702** | **2,746** | **2,852** | **2,959** | **2,679** | **2,738** | **2,809** | **2,862** | **22,347** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Metro Direct Current Cables

**Program:** Distribution
**Type:** New Facility
**Project ID:** 8144
**Start Date:** 1st Quarter 1996
**End Date:** 4th Quarter 2008

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The purpose of the Metro Direct Current Cables project is to relocate Metro DC cables out of City Light maintenance holes and vaults. This improves network reliability by separating and isolating the two electric systems, which have uncoordinated protection schemes. Some relocations have been done at Metro's expense.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **31** | **5** | **5** | **6** | **6** | **6** | **6** | **6** | **71** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Miscellaneous Building Improvements

**Program:** Finance & Administration
**Type:** Improved Facility
**Project ID:** 9007
**Start Date:** Ongoing
**End Date:** Ongoing

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The purpose of the Miscellaneous Building Improvements project is to provide funds for design, materials, and construction of a variety of small projects that are not large enough to merit separate capital projects. The project also provides funds for urgent, unscheduled improvements associated with City Light's general plant. Typical projects include plumbing, air quality improvements, remodeling and demolition.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **360** | **474** | **125** | **251** | **486** | **498** | **0** | **0** | **2,194** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Mobile Equipment

**Program:** Distribution
**Type:** Rehabilitation or Restoration
**Project ID:** 9101
**Start Date:** Ongoing
**End Date:** Ongoing

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The Mobile Equipment project budgets funds to replace and expand, when required, City Light's heavy duty mobile equipment fleet. It also funds gradual replacement of light duty vehicles that were previously leased from the Fleets & Facilities Department and are now owned by City Light.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **1,960** | **1,186** | **1,029** | **1,012** | **1,035** | **1,058** | **1,083** | **1,103** | **9,466** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Neighborhood Planning

**Program:** Distribution
**Type:** New Facility
**Project ID:** 8207
**Start Date:** 1st Quarter 1999
**End Date:** 4th Quarter 2008

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The purpose of this project is to implement Neighborhood Plan priorities related to pedestrian and safety lighting. The Department of Neighborhoods coordinates outreach activities to set these priorities with City Light's technical assistance.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **430** | **541** | **564** | **578** | **558** | **571** | **585** | **596** | **4,423** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Neighborhood Undergrounding

**Program:** Distribution
**Type:** New Facility
**Project ID:** 8206
**Start Date:** 1st Quarter 1999
**End Date:** 4th Quarter 2008

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

During the 2000 budget process, the City Council adopted a Statement of Legislative Intent directing City Light not to expend or divert any funds from this project until the Council has established clear policies and guidelines for responding to neighborhood plan requests for undergrounding utilities, and has by Resolution, restored City Light's authority to use these funds. This prohibition is intended to apply whether the undergrounding is on residential streets or on arterial streets.

It is not the intent of this legislation to hinder the legitimate use of utility funds to assist neighborhoods with planning and feasibility assessment, or the implementation of non-undergrounding projects already approved; that activity is funded separately in City Light's CIP as project #8207 Neighborhood Planning.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **29** | **160** | **169** | **169** | **172** | **176** | **180** | **184** | **1,239** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Network Additions and Services

**Program:** Distribution
**Type:** New Facility
**Project ID:** 8057
**Start Date:** Ongoing
**End Date:** Ongoing

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The purpose of the Network Additions and Services project is to provide electrical service connections and related improvements in response to requests for service from customers in the Downtown, First Hill and University network areas. Capacity additions associated with service connections are included in this project. This project also includes replacement of failed network transformers, network protectors, and specialty transformers; short-duration system improvements identified during operations; and retrofitting in-building vaults in the First Hill network with fire detection systems. This program fluctuates with land use development. Approximately 20 properties are projected to receive service in the 2003-2004 budget cycle, including condominiums, office buildings, hotels, and apartment buildings.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **13,826** | **11,678** | **11,125** | **11,299** | **10,874** | **11,122** | **11,414** | **11,634** | **92,972** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Network Hazeltine Upgrade

**Program:** Distribution
**Start Date:** 1st Quarter 1995
**Type:** New Facility
**End Date:** 4th Quarter 2008
**Project ID:** 8129

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The Network Hazeltine Upgrade project installs upgraded equipment in the existing network transformer monitoring system to better monitor the network vaults and transformers and take advantage of new capabilities in this system to maintain network reliability. In 2003 and 2004 a Nextgen unit is installed for new transformers, and out-of-date Hazeltine units are replaced to continue real time monitoring of the system.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **377** | **101** | **299** | **302** | **316** | **324** | **332** | **339** | **2,390** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Network Maintenance Hole and Vault Rebuild

**Program:** Distribution
**Start Date:** Ongoing
**Type:** Rehabilitation or Restoration
**End Date:** Ongoing
**Project ID:** 8130

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The purpose of the Network Maintenance Hole and Vault Rebuild project is to repair or replace damaged or degraded maintenance holes and vaults to prevent future unsafe working conditions and avoid public hazards. Field surveys of Network vaults and maintenance holes are performed in the downtown and First Hill areas, and repairs are designed and completed for facilities requiring capital replacement. Repairs are prioritized by the results of the field surveys, in coordination with other City projects. In 2003, three manholes and three manhole roofs are rebuilt. In 2004, five manholes and four manhole roofs are rebuilt, and facility civil surveys are completed.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **13,556** | **2,080** | **2,410** | **2,985** | **3,086** | **3,161** | **3,244** | **3,306** | **33,828** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Newhalem Creek Mitigation

**Program:** Executive
**Type:** Improved Facility
**Project ID:** 6175
**Start Date:** 3rd Quarter 2000
**End Date:** 1st Quarter 2006

**Location:** 500 Newhalem St

The Newhalem Creek Mitigation project provides environmental mitigation to the natural environment allowing City Light to fulfill its federal license requirements and minimize adverse project impacts. This project covers environmental mitigation, enhancement and rehabilitation projects required by the February 1997 FERC license for City Light's Newhalem Creek Hydroelectric Project. This project provides for the implementation of the following seven license-required capital improvement projects: constructing a tailrace fish barrier; modifying the intake system to provide for higher instream flows; reimbursing the North Cascades National Park Service for constructing a recreation trail; modifying the service road bridge to provide a trail crossing; modifying the Newhalem Powerhouse viewing platform; installing interpretive markers; and improving the Trail of the Cedars. The first five projects are complete; the sixth is completed in 2002; and the seventh is scheduled to begin in 2005.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **1,024** | **19** | **0** | **0** | **60** | **9** | **0** | **0** | **1,112** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Newhalem Garage - Revisions

**Program:** Generation
**Type:** Rehabilitation or Restoration
**Project ID:** 6231
**Start Date:** 1st Quarter 2005
**End Date:** 2nd Quarter 2006

**Location:** 500 Newhalem St

The Newhalem Garage Revisions project modifies the existing garage arrangement and design in order to adapt them to current use requirements. These requirements include increasing size, installing concrete floors, and adding 115V interior lighting and outlets. In addition, access to the garages is changed, adapting to the new landscape improvements built in 2000, consistent with the Master Landscape Plan required by City Light's FERC license.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **0** | **0** | **172** | **262** | **0** | **0** | **434** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Newhalem Powerhouse - Governor Replacement

**Program:** Generation
**Type:** Rehabilitation or Restoration
**Project ID:** 6392
**Start Date:** 1st Quarter 2007
**End Date:** 4th Quarter 2008

**Location:** 500 Newhalem St

This project replaces the Newhalem Powerhouse governor, which is the part of the turbine/generator that controls the amount of water going through the turbine, and thereby controls the amount of power generated.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **0** | **0** | **0** | **0** | **60** | **61** | **121** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Newhalem Powerhouse -Station Battery and Charger Replacement

**Program:** Generation
**Type:** Rehabilitation or Restoration
**Project ID:** 6301
**Location:** 500 Newhalem St
**Start Date:** 1st Quarter 2003
**End Date:** 3rd Quarter 2003

The Newhalem Station Battery and Charger Replacement project replaces the 130-volt DC station battery and charger at Newhalem Powerhouse.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **217** | **0** | **0** | **0** | **0** | **0** | **217** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## North 26kV Conversion

**Program:** Distribution
**Type:** Rehabilitation or Restoration
**Project ID:** 8124
**Location:** Citywide
**Start Date:** Ongoing
**End Date:** Ongoing
**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The purpose of the North 26kV Conversion project is to provide for the replacement of all old 4kV electrical equipment remaining in the distribution system with new more efficient and reliable 26kV electrical equipment.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **801** | **871** | **1,030** | **1,012** | **1,525** | **1,567** | **1,607** | **1,638** | **10,051** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## North and South Service Center Improvements

**Program:** Finance & Administration
**Type:** Improved Facility
**Project ID:** 9107
**Location:** Various
**Start Date:** 1st Quarter 1991
**End Date:** 4th Quarter 2004

The purpose of the North and South Service Center Improvements project is to provide efficient, well-designed work areas in service centers to provide City Light personnel with optimal locations, thereby providing responsive, integrated services to ratepayers in each distribution area. Major facility improvements are requested by branch customers and screened by a comprehensive facilities planning process. Construction takes place without interrupting business activities on site. The completed South Service Center Addition/Remodel subproject consisted of a new two-story office addition plus remodeled space at the north end of building A. Reconfiguring the main North Service Center building to consolidate all off-site office functions has also been completed. This work follows remodeling of the warehouse and construction of locker rooms in 1998.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **21,544** | **332** | **0** | **186** | **0** | **0** | **0** | **0** | **22,062** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## North Arterial Streetlights Major Maintenance

**Program:** Distribution
**Start Date:** 1st Quarter 2000
**Type:** Rehabilitation or Restoration
**End Date:** 4th Quarter 2008
**Project ID:** 8211

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The purpose of the North Arterial Streetlights Major Maintenance project is to provide capital improvements and replacements to the City of Seattle's arterial streetlights in the northern half of the service area to provide proper light on street rights-of-way. The City transferred ownership of 18,600 arterial streetlights to City Light at the end of 1999. Of those 18,600 streetlights, 5,000-6,000 lights are on poles installed exclusively for streetlighting. Many of these are fed from underground.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **92** | **189** | **194** | **199** | **218** | **223** | **228** | **233** | **1,576** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## North Capacity Additions

**Program:** Distribution
**Start Date:** Ongoing
**Type:** New Facility
**End Date:** Ongoing
**Project ID:** 8122

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The purpose of the North Capacity Additions project is to provide electrical lines from substations to customers' property lines so that City Light has sufficient capacity to serve its customers and maintain reliability. This project builds new and replaces old line segments, replaces rotten and damaged poles, and adds or renovates underground facilities to the distribution system in the northern half of the service area. Completion of Feeder improvements from Broad Street Substation to serve the Interbay and non-Network Waterfront area is scheduled for 2003. Capacity improvements to serve the South Lake Union area are implemented during 2003-2004. Some of the subprojects are paid for by City Light customers.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **9,843** | **10,013** | **11,003** | **11,171** | **10,912** | **11,166** | **11,459** | **11,680** | **87,247** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## North New Street and Flood Lighting

**Program:** Distribution
**Type:** New Facility
**Project ID:** 8134
**Start Date:** Ongoing
**End Date:** Ongoing

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The purpose of the North New Street and Flood Lighting project is to provide rental streetlights and floodlights attached to City Light poles to requesting customers. This service is provided pursuant to City Light Rate Ordinance #116619.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **68** | **37** | **38** | **39** | **68** | **70** | **72** | **74** | **466** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## North Outage Replacements

**Program:** Distribution
**Type:** Rehabilitation or Restoration
**Project ID:** 8302
**Start Date:** Ongoing
**End Date:** Ongoing

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The North Outage Replacements project supports the capitalized portion of work resulting from unplanned outages, to ensure customers' electric power is restored as quickly as possible. This project covers outage replacement work in the northern half of the service area. Unplanned outages result from events such as storms, accidents, and equipment failures.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **7** | **84** | **109** | **112** | **109** | **112** | **115** | **117** | **765** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## North Relocations

**Program:** Distribution
**Type:** Rehabilitation or Restoration
**Project ID:** 8304
**Start Date:** 1st Quarter 2002
**End Date:** Ongoing

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The North Relocations project relocates electrical lines from substations to customers' property lines to ensure City Light has sufficient capacity to serve its customers and maintain reliability. This project builds new and replaces old line segments, installs and replaces poles, and adds or renovates underground facilities to the distribution system in the northern half of the service area, as necessary, to relocate distribution systems for transportation projects, street vacations, and large industrial, commercial, and residential developments. Some of the subprojects are paid for by City Light customers.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **2,024** | **2,174** | **2,263** | **1,582** | **1,610** | **1,649** | **1,680** | **12,982** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## North Residential Streetlight Improvements

**Program:** Distribution
**Type:** New Facility
**Project ID:** 8136
**Start Date:** Ongoing
**End Date:** Ongoing

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The purpose of the North Residential Streetlight Improvements project is to improve public safety by installing additional residential streetlights, initially prioritizing high crime and low income locations, within the north service territory and within the Seattle City limits. The additional lights double the light levels to comply with the standard currently recommended by the Illumination Engineering Society and the American National Standards Institute. The annual scope of this program is planned with input from community and neighborhood groups.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **38** | **82** | **84** | **86** | **4** | **4** | **4** | **5** | **307** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## North Services - Overhead and Underground

**Program:** Distribution
**Type:** Rehabilitation or Restoration
**Project ID:** 8120
**Start Date:** Ongoing
**End Date:** Ongoing

**Location:** 1300 N 97th St

**Neighborhood District:** Northwest **Neighborhood Plan:** Not in a Neighborhood Plan

The purpose of the North Services - Overhead and Underground project is to provide electrical power from the street right-of-way to the customer in response to customer requests for power. The number of requests fluctuates with land use development and customer demand. The scope of this project is to design, install, and energize new or enlarged electrical services to serve the electrical demands of the industrial, commercial, and residential customers in the northern half of the service area. This includes labor and/or materials to remove the old services, renovate the existing services, and install the new services. Requests for voluntary underground projects are also accomplished in this project.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **6,508** | **8,793** | **7,854** | **8,476** | **7,908** | **8,088** | **8,300** | **8,460** | **64,387** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Office Furniture and Equipment Purchase

**Program:** Finance & Administration
**Type:** Improved Facility
**Project ID:** 9103
**Start Date:** 1st Quarter 1997
**End Date:** 4th Quarter 2004

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The Office Furniture and Equipment Purchase project purchases office furniture and equipment costing more than $5,000 for all City Light branches. Capital furniture purchases are reserved for major relocation/remodeling projects involving systems and conference/training room furniture, seating, and ergonomic items to support specific personnel requirements. In 2004, City Light intends to purchase automated envelope insertion equipment to process customer billing for City Light and other departments.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **508** | **6** | **0** | **296** | **0** | **0** | **0** | **0** | **810** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Power Stations Demand Driven Improvements

**Program:** Distribution
**Type:** Improved Facility
**Project ID:** 7755
**Start Date:** 1st Quarter 2002
**End Date:** Ongoing

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The purpose of the Power Stations Demand Driven Improvements project is to provide bulk power to the City's service area as demand for electrical services changes and grows.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **81** | **890** | **1,406** | **1,126** | **1,151** | **1,182** | **1,205** | **7,041** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Relaying Improvements

**Program:** Distribution
**Type:** Improved Facility
**Project ID:** 7753
**Start Date:** Ongoing
**End Date:** Ongoing

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The Relaying Improvements project improves general metering, control, and relaying between substations and the transmission and distribution systems. Maintaining and improving system reliability are emphasized.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **435** | **1,128** | **1,020** | **1,020** | **984** | **1,006** | **1,034** | **1,054** | **7,681** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Replace 115kV Arbutus Conductors

**Program:** Distribution
**Type:** Rehabilitation or Restoration
**Project ID:** 7103
**Start Date:** 1st Quarter 2002
**End Date:** 4th Quarter 2002

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The purpose of the Replace 115kV Arbutus Conductors project is to provide for replacement of the remaining 115kV 795 AAC conductor with 954 ACSR, City Light's standard conductor, on the Bothell-University line. This replacement raises the rating of the line to utilize its full capacity.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **327** | **0** | **0** | **0** | **0** | **0** | **0** | **327** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Roof Replacements

**Program:** Finance & Administration
**Type:** Rehabilitation or Restoration
**Project ID:** 9072
**Start Date:** Ongoing
**End Date:** Ongoing

**Location:** 500 Newhalem St

The purpose of the Roof Replacements project is to provide for replacement of roofing and weatherproofing systems on all City Light structures. Current roofing systems utilize a foam thermal barrier to improve thermal protection. The result is decreased energy consumption for heating, thus conforming to the LEED silver standard. Replacement and maintenance schedules, based on historic records and periodic inspections, keep weather barriers in good condition and minimize costly structural damage and disruption of business operations. The only roof replacement in the 2003-2004 budget is at the Ross Powerhouse.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **96** | **89** | **1,162** | **0** | **226** | **234** | **241** | **245** | **2,293** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Ross Dam - Abutment Rock Stabilization

**Program:** Generation
**Type:** Rehabilitation or Restoration
**Project ID:** 6241
**Start Date:** 3rd Quarter 1999
**End Date:** 1st Quarter 2003

**Location:** Milepost 128 State Highway 20

The Ross Dam Abutment Rock Stabilization project constructs a wire fence to prevent minor rockfall from the promontory above the right abutment of Ross Dam from reaching the dam.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **21** | **275** | **2** | **0** | **0** | **0** | **0** | **0** | **298** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Ross Dam - AC/DC Distribution System Upgrade

**Program:** Generation
**Start Date:** 3rd Quarter 2004
**Type:** Rehabilitation or Restoration
**End Date:** 4th Quarter 2006
**Project ID:** 6373

**Location:** Milepost 128 State Highway 20

This project replaces the aging AC electrical distribution system at Ross Dam with a new AC electrical distribution system.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **0** | **62** | **261** | **179** | **0** | **0** | **502** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Ross Dam - Install Fiber Optic Cable Powerhouse to Dam

**Program:** Generation
**Start Date:** 1st Quarter 2005
**Type:** Improved Facility
**End Date:** 4th Quarter 2005
**Project ID:** 6372

**Location:** Milepost 128 State Highway 20

This project installs a fiberoptic link from Ross Powerhouse to Ross Dam.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **0** | **0** | **243** | **0** | **0** | **0** | **243** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Ross Powerhouse - PLC Upgrade

**Program:** Generation
**Start Date:** 3rd Quarter 2004
**Type:** Rehabilitation or Restoration
**End Date:** 3rd Quarter 2006
**Project ID:** 6376

**Location:** Milepost 128 State Highway 20

This project replaces some of the existing programmable-logic controllers at Ross Powerhouse with a more advanced type.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **0** | **60** | **356** | **104** | **0** | **0** | **520** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Ross Powerhouse - Batteries Replacement

**Program:** Generation
**Start Date:** 1st Quarter 2004
**Type:** Rehabilitation or Restoration
**End Date:** 4th Quarter 2005
**Project ID:** 6375

**Location:** Milepost 128 State Highway 20

This project replaces Ross Powerhouse communication and station batteries.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **0** | **103** | **34** | **0** | **0** | **0** | **137** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Ross Powerhouse - Generator 41 Rebuild

**Program:** Generation
**Type:** Rehabilitation or Restoration
**Project ID:** 6382
**Start Date:** 1st Quarter 2008
**End Date:** 4th Quarter 2009

**Location:** Milepost 128 State Highway 20

This project is part of the Utility's Generator Rebuild Program. The program rebuilds ten generators (accounting for 70% of City Light's generating capability) by the end of 2013. This project rebuilds Generator 41 at Ross Powerhouse.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **5,205** | **5,205** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Ross Powerhouse - Generator 42 Rebuild

**Program:** Generation
**Type:** Rehabilitation or Restoration
**Project ID:** 6379
**Start Date:** 1st Quarter 2003
**End Date:** 4th Quarter 2004

**Location:** Milepost 128 State Highway 20

This project is part of the Utility's Generator Rebuild Program. The program rebuilds ten generators (accounting for 70% of City Light's generating capability) by the end of 2013. This project rebuilds Generator 42 at Ross Powerhouse.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **4,608** | **1,107** | **0** | **0** | **0** | **0** | **5,715** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Ross Powerhouse - Generator 43 Rebuild

**Program:** Generation
**Type:** Rehabilitation or Restoration
**Project ID:** 6380
**Start Date:** 1st Quarter 2005
**End Date:** 4th Quarter 2006

**Location:** Milepost 128 State Highway 20

This project is part of the Utility's Generator Rebuild Program. The program rebuilds ten generators (accounting for 70% of City Light's generating capability) by the end of 2013. This project rebuilds Generator 43 at Ross Powerhouse.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **0** | **0** | **4,849** | **1,270** | **0** | **0** | **6,119** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Ross Powerhouse - Generator 44 Rebuild

**Program:** Generation
**Start Date:** 1st Quarter 2006
**Type:** Rehabilitation or Restoration
**End Date:** 4th Quarter 2007
**Project ID:** 6381

**Location:** Milepost 128 State Highway 20

This project is part of the Utility's Generator Rebuild Program. The program rebuilds ten generators (accounting for 70% of City Light's generating capability) by the end of 2013. This project rebuilds Generator 44 at Ross Powerhouse.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **0** | **0** | **0** | **4,966** | **1,300** | **0** | **6,266** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Ross Powerhouse - Generator Rewind Program

**Program:** Generation
**Start Date:** 2nd Quarter 2000
**Type:** Rehabilitation or Restoration
**End Date:** 2nd Quarter 2008
**Project ID:** 6215

**Location:** Milepost 128 State Highway 20

The Ross Powerhouse - Generator Rewind Program provides electronic scanners for generator Units 41-44 at Ross Powerhouse to obtain more accurate data about generator condition, thereby enabling a more timely determination of when to proceed with rewind projects. One scanner is installed each year between 2001 and 2004.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **24** | **0** | **42** | **535** | **447** | **461** | **527** | **10** | **2,046** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Ross Powerhouse - Governors Replacement

**Program:** Generation
**Start Date:** 1st Quarter 2000
**Type:** Rehabilitation or Restoration
**End Date:** 4th Quarter 2009
**Project ID:** 6205

**Location:** Milepost 128 State Highway 20

The Ross Powerhouse Governors Replacement project provides improved automatic signal processing and information management to Powerhouse operators and the Power Management Branch to reduce downtime and maximize power generation. The new digital technology also provides networking compatibility to support future information management objectives.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **555** | **0** | **0** | **0** | **0** | **0** | **698** | **696** | **1,949** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Ross Powerhouse - Replace Generator Breakers

**Program:** Generation
**Type:** Rehabilitation or Restoration
**Project ID:** 6374
**Start Date:** 1st Quarter 2007
**End Date:** 4th Quarter 2008

**Location:** Milepost 128 State Highway 20

This project replaces the breakers for Generators 41, 42, 43, and 44 at the Ross Powerhouse.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **0** | **0** | **0** | **0** | **1,487** | **1,541** | **3,028** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Ross Powerhouse - Replace Governor Oil Pumps

**Program:** Generation
**Type:** Rehabilitation or Restoration
**Project ID:** 6377
**Start Date:** 1st Quarter 2005
**End Date:** 4th Quarter 2006

**Location:** Milepost 128 State Highway 20

This project replaces the governor oil pump systems on all four Ross Powerhouse generator units. Included are two pumps with motors, valves, switches, and control circuits for each unit.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **0** | **0** | **77** | **194** | **0** | **0** | **271** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Safety Modifications

**Program:** Executive
**Type:** Improved Facility
**Project ID:** 9006
**Start Date:** Ongoing
**End Date:** Ongoing

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The purpose of the Safety Modifications project is to provide a financial placeholder for unscheduled safety projects. Unscheduled work typically involves small safety improvements costing less than $50,000.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **183** | **286** | **261** | **233** | **188** | **191** | **191** | **194** | **1,727** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Seismic Mitigation

**Program:** Finance & Administration
**Type:** Improved Facility
**Project ID:** 9134
**Location:** Various
**Start Date:** 1st Quarter 1997
**End Date:** 4th Quarter 2008

The purpose of the Seismic Mitigation project is to provide seismic structural upgrades to buildings. Facility seismic improvements protect City Light's assets, employees, customers, visitors, equipment, and materials. The scope of improvements is linked to the business conducted at designated sites and requirements during emergency conditions. Examples of seismic projects include seismic bracing to correct significant deficiencies identified in a structural survey (East Pine); designing and constructing previously identified seismic upgrades concurrent with the North Service Center remodel project; and seismically upgrading storage areas at the South Service Center while increasing storage density and reducing overall space requirements.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **4,567** | **58** | **0** | **0** | **120** | **125** | **128** | **130** | **5,128** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Skagit Licensing Mitigation

**Program:** Executive
**Type:** Improved Facility
**Project ID:** 6991
**Location:** 500 Newhalem St
**Start Date:** 1st Quarter 1991
**End Date:** 4th Quarter 2008

The purpose of the Skagit Licensing Mitigation project is to provide environmental mitigation to the natural environment and the general public to fulfill City Light's federal license requirements and minimize adverse project impacts. Projects include purchasing wildlife lands and creating interior and exterior interpretive displays for visitors to the Skagit. Operations and maintenance costs cover monitoring this undeveloped land to ensure trees are not cut down, boundaries are respected, and illegal dumping does not occur.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **31,640** | **1,096** | **95** | **346** | **494** | **428** | **556** | **450** | **35,105** |
| ***O&M Costs (Savings)*** | | | 35 | 35 | 35 | 35 | 35 | 35 | **210** |

## Skagit Security Systems

**Program:** Generation
**Type:** Improved Facility
**Project ID:** 6388
**Location:** 500 Newhalem St
**Start Date:** 1st Quarter 2003
**End Date:** 4th Quarter 2004

This project provides security systems at Skagit camps and generating facilities.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **745** | **683** | **0** | **0** | **0** | **0** | **1,428** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Skagit Telephone System Upgrade

**Program:** Distribution
**Type:** Improved Facility
**Project ID:** 9311
**Location:** 500 Newhalem St

**Start Date:** 3rd Quarter 2001
**End Date:** 4th Quarter 2004

The purpose of the Skagit Telephone System Upgrade project is to replace existing analog telephone switches at Diablo with two new digital switches and related equipment. The new switches provide additional capacity for Diablo, including the Federal Energy Regulatory Commission-mandated North Cascades Environmental Learning Center. The new switches utilize the fiber now being installed between Bothell and the Skagit. In 2004 the project is completed and closed out.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **5** | **48** | **673** | **138** | **0** | **0** | **0** | **0** | **864** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## SnoKing-Bothell #2 Permanent Connection

**Program:** Distribution
**Type:** Rehabilitation or Restoration
**Project ID:** 7101
**Location:** 3912 156th SE

**Start Date:** 1st Quarter 2002
**End Date:** 4th Quarter 2002

The purpose of the SnoKing-Bothell #2 Permanent Connection project is to provide a 230kV line from Bothell Substation to SnoKing substation. A 230kV connection between Bonneville Power Administration (BPA) is provided to meet City Light's Eastside line requirements. City Light's work includes installing a 230kV breaker at Bothell, replacing a span of City Light's line to reconnect the east side line to Bothell, and tree removal on 3.7 miles of right-of-way. BPA is installing a breaker at SnoKing and a section of line to connect to City Light's system.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **54** | **0** | **0** | **0** | **0** | **0** | **0** | **54** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Sound Transit Light Rail - City Light

**Program:** Distribution
**Type:** New Facility
**Project ID:** 8204
**Start Date:** 1st Quarter 2000
**End Date:** 4th Quarter 2008

**Location:** Citywide
**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The Sound Transit project provides services necessary to design and build the Sound Transit's light rail project, including relocation of City Light's electrical distribution and transmission systems affected by Sound Transit's construction, service connections to power Sound Transit's stations, and additional capacity for those services. During construction, Sound Transit is responsible for preserving the integrity of the electrical system for all customers and maintaining required electrical clearances necessary for public safety. City Light, through its CIP, supports these efforts. Sound Transit's schedule indicates that project work continues beyond 2008.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **322** | **817** | **4,007** | **3,805** | **10,314** | **12,328** | **713** | **550** | **32,856** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## South 26kV Conversion

**Program:** Distribution
**Type:** Rehabilitation or Restoration
**Project ID:** 8125
**Start Date:** Ongoing
**End Date:** Ongoing

**Location:** Citywide
**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The South 26kV Conversion project replaces all old 4kV electrical equipment remaining in the electrical distribution system with new efficient and reliable 26kV distribution equipment.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **110** | **880** | **1,332** | **1,314** | **1,192** | **1,215** | **1,247** | **1,271** | **8,561** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## South Arterial Streetlights Major Maintenance

**Program:** Distribution
**Type:** Rehabilitation or Restoration
**Project ID:** 8210
**Start Date:** 1st Quarter 2000
**End Date:** 4th Quarter 2008

**Location:** Citywide
**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The South Arterial Streetlights Major Maintenance project provides necessary capital improvements and replacements to the City of Seattle's arterial streetlights in the southern half of the service area to provide proper light for street rights-of-way. The City transferred ownership of 18,600 Arterial Streetlights to City Light at the end of 1999. Of those 18,600 streetlights, 5,000-6,000 lights are on poles installed exclusively for streetlighting. Many of these lights are fed from underground.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **51** | **176** | **200** | **202** | **183** | **187** | **192** | **196** | **1,387** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## South Capacity Additions

**Program:** Distribution
**Type:** New Facility
**Project ID:** 8123
**Start Date:** Ongoing
**End Date:** Ongoing

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The South Capacity Additions project provides electrical lines from the substations to the customers' property line to ensure City Light has sufficient capacity to serve customers and maintain reliability. This project builds new and replaces old line segments, replaces rotten and damaged poles, and adds or renovates underground facilities to the distribution system in the southern half of the service area. Some of the subprojects are paid for by customers.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **10,695** | **11,154** | **4,741** | **4,753** | **4,368** | **4,458** | **4,572** | **4,659** | **49,400** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## South Fork Tolt River Mitigation

**Program:** Executive
**Type:** Improved Facility
**Project ID:** 6046
**Start Date:** Ongoing
**End Date:** Ongoing

**Location:** South Fork Tolt River

The purpose of the South Fork Tolt River Mitigation project is to provide environmental mitigation to the natural environment and the general public to fulfill City Light's federal license requirements and minimize adverse project impacts. The South Fork Tolt River Hydroelectric Project uses the hydroelectric potential of the existing SPU Tolt River municipal/industrial water supply system located northeast of Carnation, Washington. The FERC License and 1988 Settlement Agreement stipulate mitigation and enhancement requirements for City Light's operation of the South Fork Tolt Hydroelectric Project. These include responsibilities in the areas of recreation, water quality, wetlands, and fisheries resources.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **53,945** | **720** | **108** | **98** | **80** | **82** | **84** | **86** | **55,203** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## South Lake Union - Power Supply

**Program:** Distribution
**Type:** Improved Facility
**Project ID:** 8308
**Start Date:** 1st Quarter 2002
**End Date:** 4th Quarter 2004

This project develops a strategy to supply power from outlying substations prior to tapping power from a newly built South Lake Union Substation. A surge of development in the South Lake Union area has caused increased power demands that must be met before a new substation is built.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **112** | **126** | **130** | **0** | **0** | **0** | **0** | **368** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## South New Street and Flood Lighting

**Program:** Distribution
**Type:** New Facility
**Project ID:** 8133
**Start Date:** Ongoing
**End Date:** Ongoing

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The purpose of the South New Street and Flood Lighting project is to provide requesting customers with rental streetlights and floodlights attached to City Light poles. This service is provided to customers pursuant to City Light Rate Ordinance #116619.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **351** | **211** | **210** | **214** | **190** | **194** | **199** | **203** | **1,772** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## South Outage Replacements

**Program:** Distribution
**Type:** Rehabilitation or Restoration
**Project ID:** 8303
**Start Date:** Ongoing
**End Date:** Ongoing

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The purpose of the South Outage Replacements project is to support the capitalized portion of work resulting from unplanned outages to ensure electric power is restored as quickly as possible. This project covers outage replacement work in the southern half of the service area. Unplanned outages result from events such as storms, accidents, and equipment failures. Pole and transformer replacements required to restore power are among the elements capitalized during such repairs.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **361** | **1,024** | **1,126** | **1,170** | **1,086** | **1,111** | **1,141** | **1,163** | **8,182** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## South Relocations

**Program:** Distribution
**Type:** Rehabilitation or Restoration
**Project ID:** 8305
**Start Date:** Ongoing
**End Date:** Ongoing

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The purpose of the South Relocations project is to relocate electrical lines from the substations to customers' property lines to ensure City Light has sufficient capacity to serve its customers and maintain reliability. This project builds new and replaces old line segments, installs and replaces poles, and adds or renovates underground facilities to the distribution system in the southern half of the service area as necessary to relocate distribution systems for transportation projects, street vacations, and large industrial, commercial, and residential developments. Some of the subprojects are paid for by customers.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **3,198** | **10,155** | **10,612** | **9,809** | **10,037** | **10,303** | **10,502** | **64,616** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## South Residential Streetlight Improvements

**Program:** Distribution
**Type:** New Facility
**Project ID:** 8135
**Start Date:** Ongoing
**End Date:** Ongoing

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The purpose of the South Residential Streetlight Improvements project is to improve public safety by installing additional residential streetlights, initially prioritizing high crime and low income locations, within the south service territory and within the Seattle city limits. The additional lights double the light levels to comply with the standard currently recommended by the Illumination Engineering Society and the American National Standards Institute. The annual scope of this program is planned with input from community and neighborhood groups.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **154** | **177** | **182** | **181** | **168** | **171** | **175** | **179** | **1,387** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## South Services - Overhead and Underground

**Program:** Distribution
**Type:** Rehabilitation or Restoration
**Project ID:** 8121
**Start Date:** Ongoing
**End Date:** Ongoing

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The South Services - Overhead and Underground project provides electrical power from the street right-of-way to the customer in response to power requests. The number of requests fluctuates with land use development and customer demand. The scope of this project is to design, install, and energize new or enlarged electrical services to serve the electrical demands of the industrial, commercial, and residential customers in the southern half of the service area. This includes labor and/or materials to remove the old services, renovate the existing services, and install the new services. Requests for voluntary underground projects also are accomplished in this project.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **5,937** | **4,374** | **4,727** | **4,842** | **4,426** | **4,524** | **4,642** | **4,731** | **38,203** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Space Consolidation

**Program:** Finance & Administration
**Type:** Improved Facility
**Project ID:** 9159
**Start Date:** 1st Quarter 1999
**End Date:** 4th Quarter 2004

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The purpose of the Space Consolidation project is to improve space efficiency in City Light facilities. This includes capital improvements in existing buildings and sites, to better use available assets, providing space for functions now residing in leased space and co-locating activities to improve customer service. Examples of planned projects include additional storage racks and material handling equipment for the North Service Center warehouse in order to accommodate material stored in a nearby building scheduled for demolition, and additional shelving, cabinets, and related equipment for the North Service Center tool room to increase capacity and operational efficiency. A mezzanine structure is also considered to better utilize the available upper level space.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **232** | **69** | **58** | **60** | **0** | **0** | **0** | **0** | **419** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Special Work Equipment - Generation Plant

**Program:** Generation
**Type:** Rehabilitation or Restoration
**Project ID:** 6102
**Start Date:** Ongoing
**End Date:** Ongoing

**Location:** Various

The purpose of the Special Work Equipment - Generation Plant project is to provide special work equipment, machinery, and tools to be used for the workload activities or operations of the Generation Branch. This ongoing project provides for purchase of tools and equipment required for operations at the Skagit, Boundary, Tolt, and Cedar Falls facilities. City Light bases its purchases on a five-year plan, updated for technological improvements.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **178** | **725** | **803** | **789** | **439** | **444** | **453** | **463** | **4,294** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Special Work Equipment - Substation Plant

**Program:** Distribution **Start Date:** Ongoing
**Type:** Rehabilitation or Restoration **End Date:** Ongoing
**Project ID:** 7902

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The Special Work Equipment - Substation Plant project provides funding to purchase tools and special work equipment that can be capitalized. New equipment allows crews to accomplish their work in a safe, timely, and efficient manner. This project is ongoing and provides essential tools to accomplish high voltage electrical and crafts work. The project covers equipment costing more than $5,000 per unit.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **160** | **83** | **129** | **60** | **85** | **87** | **89** | **92** | **785** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Substation Capacity Additions

**Program:** Distribution **Start Date:** Ongoing
**Type:** Improved Facility **End Date:** Ongoing
**Project ID:** 7751

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The Substation Capacity Additions project adds new infrastructure to existing substations and systems. This work differs from Project 7752 (Substation Equipment Improvements) in that it adds capacity to existing substations to meet increasing load demands. Transmission of power from the substations to the distribution system is safer, more reliable, and more efficient. Subprojects include, but are not limited to, adding transformers and related equipment, reconfiguring and extending get-aways to the distribution grid, and building ring buses.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **344** | **2,947** | **730** | **802** | **733** | **748** | **767** | **782** | **7,853** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Substation Comprehensive Improvements

**Program:** Finance & Administration
**Type:** Improved Facility
**Project ID:** 9161
**Start Date:** 1st Quarter 1997
**End Date:** 4th Quarter 2004

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The purpose of the Substation Comprehensive Improvements project is to provide improvements to substations to provide adequate facilities for assigned personnel and make necessary upgrades to ensure the integrity of the facility. Each substation is upgraded in a prioritized sequence and all identified projects completed under one contract while minimizing disruption to operations. These improvements are identified in City Light's Comprehensive Facilities Plan. Included are items necessary to support assigned personnel such as lunch and locker room facilities required by union contracts, work areas for crew chiefs, ventilation and heating systems, and correction of water, sewer, security, and other significant building-related concerns.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **649** | **440** | **0** | **482** | **0** | **0** | **0** | **0** | **1,571** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Substation Equipment Improvements

**Program:** Distribution
**Type:** Improved Facility
**Project ID:** 7752
**Start Date:** Ongoing
**End Date:** Ongoing

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

Substation Equipment Improvements add, replace, and upgrade Substation equipment to maintain or improve system reliability, comply with high voltage and environmental regulations, and ensure safe work sites. The subprojects cover the substation electrical and control equipment rather than the building facilities.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **5,819** | **6,684** | **5,196** | **5,346** | **5,300** | **5,428** | **5,570** | **5,721** | **45,064** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Substation Plant Improvements

**Program:** Distribution
**Type:** Improved Facility
**Project ID:** 7750
**Start Date:** Ongoing
**End Date:** Ongoing

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The Substation Plant Improvements project upgrades and improves substation buildings, their facilities and systems, and related structures. The capital work maintains and improves system reliability, provides for regulatory compliance, and ensures the safety of the work sites. It includes making environmental improvements as well as removing and replacing outdated utilities and structures.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **170** | **725** | **1,578** | **1,172** | **980** | **999** | **1,025** | **1,045** | **7,694** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Tolt - Penstock Crossover Connection

**Program:** Generation
**Type:** Improved Facility
**Project ID:** 6360
**Start Date:** 1st Quarter 2004
**End Date:** 2nd Quarter 2005

**Location:** South Fork Tolt River

This project connects the SPU and City Light penstocks by installing 40 feet of pipe with two valves. Equipment lifetime should be 30 years or greater.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **0** | **0** | **368** | **38** | **0** | **0** | **0** | **406** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Tolt Turbine Runner Repair/Replacement

**Program:** Generation
**Type:** Rehabilitation or Restoration
**Project ID:** 6242
**Start Date:** 1st Quarter 2000
**End Date:** 1st Quarter 2002

**Location:** 19901 Cedar Falls Rd SE

The Tolt Turbine Runner Repair/Replacement project provides a new turbine runner at the South Fork Tolt River Powerhouse to replace the existing damaged runner to significantly improve power generation, reliability, and safety.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **881** | **87** | **0** | **0** | **0** | **0** | **0** | **0** | **968** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Tool and Work Equipment - Other Plant

**Program:** Distribution
**Type:** Rehabilitation or Restoration
**Project ID:** 9102
**Start Date:** Ongoing
**End Date:** Ongoing

**Location:** Citywide
**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The purpose of the Tool and Work Equipment - Other Plant project is to provide new tools and work equipment to replace old or broken tools or work equipment to ensure field crews and other employees may accomplish their work assignments. This ongoing procurement project provides capitalized tools and work equipment required by all individual City Light units, except those required at the generation plants or substations.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **225** | **567** | **445** | **455** | **546** | **560** | **574** | **585** | **3,957** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Transmission & Generation Radio Systems

**Program:** Distribution
**Start Date:** 1st Quarter 1998
**Type:** Rehabilitation or Restoration
**End Date:** 4th Quarter 2008
**Project ID:** 9108

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The purpose of the Transmission & Generation Radio Systems project is to build or replace communications infrastructure consisting of fiber optic cable, digital microwave or conventional radio systems. This project supports the FERC-mandated vital communications systems which provide City Light's utility command and control, SCADA, radios, and Energy Management System (EMS), and safety of field employees.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **2,721** | **1,211** | **1,157** | **1,585** | **1,611** | **1,649** | **1,691** | **1,722** | **13,347** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Transmission Capacity

**Program:** Distribution
**Start Date:** Ongoing
**Type:** Improved Facility
**End Date:** Ongoing
**Project ID:** 7011

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

Transmission Capacity projects create capacity to meet customer load demands. These projects include: Reconductoring Maple Valley-Massachusetts and Talbot-South transmission lines, Downtown Transmission, Aerial Survey, Interbay Transmission, and South Lake Union Transmission.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **116** | **465** | **674** | **697** | **704** | **721** | **741** | **755** | **4,873** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Transmission Inter-Agency

**Program:** Distribution
**Start Date:** Ongoing
**Type:** Improved Facility
**End Date:** Ongoing
**Project ID:** 7105

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

The purpose of the Transmission Inter-Agency project is to provide demand driven transmission improvements to City Light's transmission system, including reimbursable transmission work and relocations of transmission equipment to meet customer, other utility, agency, and regulatory requirements. Current projects include: Sound Transit at the E3 Busway and at S. 212th, Amtrak relocation, and Lake Youngs Substation get-aways.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **138** | **105** | **164** | **170** | **172** | **177** | **181** | **185** | **1,292** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Transmission Reliability

**Program:** Distribution
**Type:** Improved Facility
**Project ID:** 7104
**Start Date:** 1st Quarter 2002
**End Date:** 4th Quarter 2008

**Location:** Citywide

**Neighborhood District:** In more than one district **Neighborhood Plan:** Not in a Neighborhood Plan

This project includes all engineering and construction to improve or maintain the reliability of the overhead or underground transmission system. Reliability projects may include line rebuilds, new lines to enhance reliability of a substation, new line configuration to improve operation, and relocations required to maintain the transmission system. Current projects include relocating conductors near Third Avenue South and South Massachusetts Street to accommodate construction of an Amtrak facility.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **0** | **121** | **115** | **119** | **123** | **126** | **129** | **132** | **865** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

## Union Street Substation Networks

**Program:** Distribution
**Type:** Improved Facility
**Project ID:** 8201
**Start Date:** 1st Quarter 1999
**End Date:** 4th Quarter 2008

**Location:** 1312 Western AV

**Neighborhood District:** Downtown **Neighborhood Plan:** Not in a Neighborhood Plan

The purpose of the Union Street Substation Networks project is to provide added capacity and improved reliability of the electrical system to the Seattle City Light customers in the Union Street Substation service area. Work may include installation of new civil facilities (vaults and conduits), reconductoring and relocation of primary feeders, upgrading network transformers, additions and separations to secondary bus ties, installation of fire wrap on cables, transferring load between networks (cuts and taps), installation of real time ampacity equipment, installation of primary switches for load transfer or sectionalizing, installation or replacement of network protectors, installation of fire protection systems, and rebalancing feeders. Scope for 2003 and 2004 includes reconductoring one feeder mainstem, replacing one failed primary cable, one rebalance reconfiguration, replacing one non-submersible network protector, and firewrapping a few primary cables.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **2,978** | **1,419** | **333** | **328** | **298** | **304** | **311** | **317** | **6,288** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*

## Work Process Management System

**Program:** Finance & Administration
**Type:** Improved Facility
**Project ID:** 9927
**Location:** 500 Newhalem St

**Start Date:** Ongoing
**End Date:** Ongoing

City Light uses many existing applications to perform asset management and work order management functions. In addition, an inventory management system, Passport, was implemented in 2000. A variety of tools estimate project budgets and schedules. An enterprise work management system interfaces with these applications or incorporates many of their functions, and would be used by City Light personnel to identify, plan, schedule, track, and document field work across City Light. Implementation of this system enables work planners and schedulers to match job requirements with available resources to ensure the use of automated cost estimation results in more efficient engineering design, more accurate planning of materials and labor, and significant reductions in warehoused inventories.

| | LTD | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Seattle City Light Fund** | **794** | **2,011** | **3,027** | **2,397** | **2,124** | **2,224** | **2,472** | **2,281** | **17,330** |
| ***O&M Costs (Savings)*** | | | N/C | N/C | N/C | N/C | N/C | N/C | **0** |

**Amounts in thousands of dollars*