



**U.S. Department of
Transportation**

BUDGET ESTIMATES

FISCAL YEAR 2012

**SAINT LAWRENCE
SEAWAY DEVELOPMENT
CORPORATION**

**SUBMITTED FOR THE USE OF
THE COMMITTEES ON APPROPRIATIONS**

U.S. DEPARTMENT OF TRANSPORTATION
SAINT LAWRENCE SEAWAY DEVELOPMENT CORPORATION
FY 2012 BUDGET REQUEST
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Saint Lawrence Seaway Development Corporation
FY 2012 Budget Request
Budget Overview

For Fiscal Year (FY) 2012, the Saint Lawrence Seaway Development Corporation (SLSDC) is requesting an appropriation from the Harbor Maintenance Trust Fund (HMTF) of \$34.0 million to fund the daily operations and maintenance of the U.S. portion of the St. Lawrence Seaway as well as 23 Year Four projects of the Seaway's Asset Renewal Program (ARP).

The SLSDC's program budget for FY 2012 also includes the use of \$900,000 in agency estimated non-federal revenues for a total spending plan of \$34.9 million. The spending plan includes approximately \$17.8 million for the SLSDC's Agency Operations program, which funds the Corporation's 144 full-time equivalent employees (FTEs) and the day-to-day operations and maintenance of the Seaway, and \$17.1 million for its ARP program. The FY 2012 request represents an increase of \$1.7 million as compared to the FY 2010 enacted level (*\$914,000 in net baseline increases for Agency Operations and \$758,000 in net program increases for ARP*).

Under this funding scenario, the SLSDC will be able to perform its core mission of serving the U.S. intermodal and international transportation system and providing a safe, reliable, efficient, and environmentally responsible deep-draft waterway, in cooperation with its Canadian counterpart, the St. Lawrence Seaway Management Corporation (SLSMC). Primary agency activities include lock operations and maintenance, vessel traffic control, vessel safety and environmental inspections, trade development, and capital infrastructure replacements and improvements.

The \$17.1 million request to complete 23 ARP projects will address various needs for the two U.S. Seaway locks, operational systems and networks, and Corporation facilities and equipment (*see pages 54-59 for ARP projects and descriptions*). This includes 17 multi-year projects that were funded in FYs 2009-2010 and/or requested in FY 2011. Major ARP projects to be funded in FY 2012 include rehabilitation of the downstream miter gate at Snell Lock (\$4.4 million), replacement of concrete in the diffusers at Eisenhower Lock (\$3 million), demolition work related to the installation of an ice flushing system at Snell Lock (\$2 million), and upgrade of miter gate machinery at Eisenhower Lock (\$1.6 million).

The start of the program in 2009 marked the first time in the Seaway's 50-year history that a coordinated effort to repair and modernize the U.S. Seaway infrastructure had taken place. None of the ARP investments will result in increases to the authorized depth or width of the navigation channel or to the size of the two existing U.S. locks.

The SLSDC's ARP focuses on improving aging Seaway infrastructure, conducting maintenance dredging, investing in new technologies, purchasing new equipment, and refurbishing aging facilities. The ARP is resulting in not only modernized infrastructure and new equipment to ensure the long-term reliability of the St. Lawrence Seaway, but it is also having a positive and significant impact on the Upstate New York economy. In fact, approximately three-quarters of the ARP funds obligated during the program's first two years, totaling nearly \$25 million, stayed in the regional economy.

The SLSDC's ARP closely coordinates with infrastructure renewal work completed or planned by the Canadian SLSMC and supports the engineering considerations highlighted in the November 2007 binational *Great Lakes St. Lawrence Seaway Study*, authored by the U.S. Army Corps of Engineers (USACE). The study, which was completed with the support of the U.S. and Canadian governments, evaluated the infrastructure needs of the U.S. and Canadian Great Lakes Seaway System and assessed the economic, environmental, and engineering implications of those needs pertaining to commercial navigation. As part of its ARP planning and implementation processes, the SLSDC is working closely with the SLSMC and USACE to leverage their expertise.

An individual system delay or series of delays/shutdowns would seriously jeopardize the Great Lakes Seaway System's global competitiveness for the movement of agricultural and steel-related products. Although the Seaway has enjoyed a 99 percent reliability rate over its history, similar results in the future are uncertain with an aging infrastructure that has not been adequately renewed. In the competitive global market for commercial transportation, a system delay could force Seaway customers to seek alternative maritime routes and other transportation modes permanently. An economic analysis concluded that the Great Lakes Seaway System provides approximately \$3.6 billion in annual transportation cost savings compared to the next least expensive mode of transportation.

SLSDC programs and activities, including the ARP, directly support the Department's "Economic Competitiveness" strategic objective and the related outcome of maximizing economic results on transportation policies and investments.

The safe and reliable transportation of maritime commerce through the St. Lawrence Seaway, the primary outcome of the SLSDC's programmatic efforts, serves an eight-state, two-province region that accounts for 29 percent of the U.S. gross domestic product (GDP), 60 percent of Canada's GDP, 55 percent of North America's manufacturing and services industries, and is home to one-quarter of the continent's population. In fact, SLSDC operations resulting in the movement of maritime commerce on the Great Lakes Seaway System impacts 150,000 U.S. jobs and generates annually \$4.3 billion in personal income and \$3.4 billion in business revenues. Over its history, the St. Lawrence Seaway has handled more than 2.5 billion metric tons of cargo valued in excess of \$375 billion.

The SLSDC measures operational performance based on its ability to provide global customers with a safe, efficient, and reliable waterway and lock system. To that end, the SLSDC sets an annual availability rate of 99 percent for the U.S. Seaway sector and locks as its core performance measure, which it has consistently maintained throughout the waterway's history, beginning in 1959. In FY 2010, the SLSDC met its performance goal with an availability rate of 99.8 percent.

In addition to the operations and maintenance of the U.S. portion of the Seaway, the SLSDC also supports regional efforts to promote and market the waterway to generate additional tonnage for the system and has taken a leadership role in the region on ballast water management issues.

In FY 2012, the SLSDC will continue to strengthen existing trading partner relations and develop new markets through its trade development initiatives in an effort to increase Seaway commerce. The Seaway is positioned for significant growth in new business as the waterway has become a viable option for shippers looking to avoid highway and railway congestion.

In 2009, 1.6 million metric tons of new cargo transited the system, including windmill parts and biofuels, due to binational efforts to market the waterway and reduce user costs. In FY 2012, the SLSDC will continue to identify new commodities and markets to further increase Seaway trade.

The SLSDC, Canadian SLSMC, and other U.S. and Canadian federal partners, continue to make notable progress in ballast water management and efforts to prevent any new introductions of aquatic invasive species (AIS) via commercial vessels entering Seaway waters. In 2008, the SLSDC implemented regulations requiring all ships with no ballast in their tanks to conduct saltwater flushing of their empty ballast water tanks before arriving in the Seaway.

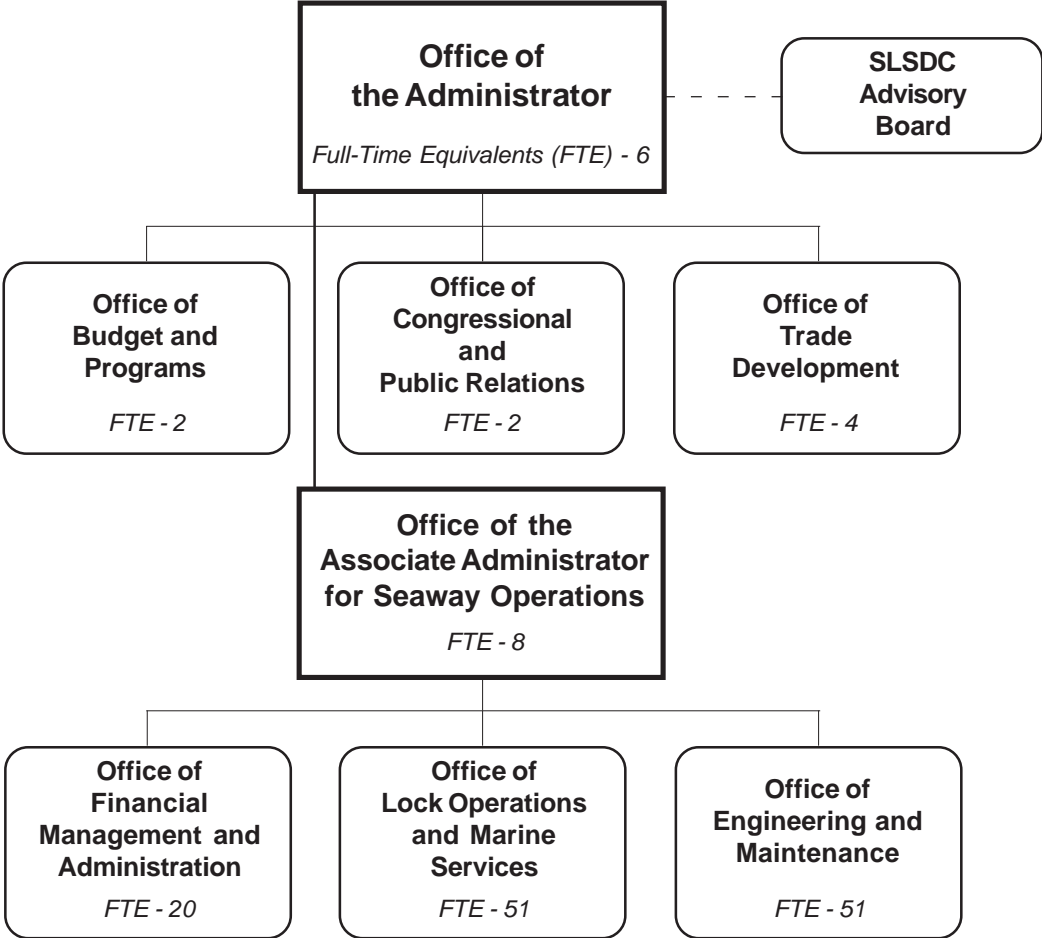
In addition, the SLSDC, along with the other U.S. and Canadian partners, have enforced ballast water inspections of all vessels to ensure the regulations are carried out. In 2009, 100 percent of cargo vessels bound for Great Lakes Seaway System ports received a ballast water or ballast tank exam. Ships that failed to properly manage their ballast tanks were required to either retain the ballast water and residuals on board, treat the ballast water in an environmentally sound and approved manner, or return to sea to conduct a ballast water exchange. Vessels given letters of retention were boarded and checked on their outbound transit at the SLSDC's U.S. Eisenhower Lock in Massena, N.Y. for compliance. The Great Lakes Aquatic Nonindigenous Species Information System (GLANSIS), maintained by the National Oceanic and Atmospheric Administration (NOAA), documents that the last time a new non-native species was determined to have been established in the Great Lakes was 2006.

Also, in FY 2009 the SLSDC initiated the Great Lakes Ballast Water Collaborative (BWC), in conjunction with the International Joint Commission (IJC), to bring together industry and state and federal regulators on the issue of ballast water and invasive species in the region. One of the primary goals of the BWC is to share relevant, useful, and accurate information and to foster better communication and collaboration among the key stakeholders seeking to reduce the risks associated with the introduction and spread of aquatic nuisance species. A particular emphasis of the BWC has been to bring state representatives together with marine industry representatives and respected scientists to find workable and effective solutions to the aquatic invasive species challenge as they relate to the Great Lakes St. Lawrence Seaway System.

In September 2009, the BWC held its first meeting in Detroit, Mich., as an information-sharing forum on ballast water issues for the Great Lakes Seaway System. Since that first meeting, there have been three additional full BWC meetings – May 2010 in Montreal, Que., July 2010 in Duluth, Minn., and January 2011 in Toronto, Ont.

The BWC has attracted the active participation of more than 100 different U.S. and Canadian senior-level officials and executives, including representatives from state and provincial governments (Minnesota, Wisconsin, Illinois, Ohio, Michigan, New York, and Ontario); U.S. and Canadian regulatory agencies; U.S.-flag laker, Canadian-flag laker, and international fleets; and leading academic ballast water researchers from Canada and the United States.

Saint Lawrence Seaway Development Corporation Organization Chart FY 2011-2012



**Budget
Summary Tables**

EXHIBIT II-1
COMPARATIVE STATEMENT OF NEW BUDGET AUTHORITY
Saint Lawrence Seaway Development Corporation
Budget Authority
(In thousands of dollars)

<u>ACCOUNT NAME</u>	<u>FY 2010 ACTUAL</u>	<u>FY 2011 CR ANNUALIZED</u>	<u>FY 2012 REQUEST</u>
Operations and Maintenance - HMTF (69-8003)	\$32,324	\$32,324	\$33,996
	-----	-----	-----
SLSDC TOTALS:	\$32,324	\$32,324	\$33,996

EXHIBIT II-2
FY 2012 BUDGET REQUEST BY APPROPRIATION ACCOUNT
Saint Lawrence Seaway Development Corporation
Appropriations
(In thousands of dollars)

<u>ACCOUNT NAME</u>	<u>FY 2010 ACTUAL</u>	<u>FY 2011 CR ANNUALIZED</u>	<u>FY 2012 REQUEST</u>
<u>Appropriations Request</u>			
Operations and Maintenance - HMTF (69-8003)	\$32,324	\$32,324	\$33,996
<u>Non Federal Revenues/Reserve Drawdown</u>	\$1,225	\$900	\$900
	-----	-----	-----
Total SLSDC Funding:	\$33,549	\$33,224	\$34,896
<u>Total Program Budget</u>			
SLSDC Fund (69x4089) ¹			
Agency Operations	\$17,232	\$17,524	\$17,821
Asset Renewal Program	\$16,317	\$15,700	\$17,075
	-----	-----	-----
Totals:	\$33,549	\$33,224	\$34,896

¹ The SLSDC Fund (69x4089) for FY 2012 is proposed to include \$33,996,000 in an appropriation from the Harbor Maintenance Trust Fund (HMTF) and \$900,000 in non-federal revenues. Each year, the SLSDC, as a government corporation, generates non-federal income from such sources as interest on investments, rental payments, pleasure craft tolls, tug services, and duty free store revenues.

EXHIBIT II-3
FY 2012 BUDGET REQUEST BY DOT STRATEGIC AND ORGANIZATIONAL OBJECTIVES
Saint Lawrence Seaway Development Corporation
(In thousands of dollars)

Account/Program	DOT STRATEGIC OBJECTIVES						
	Safety	Environmental Sustainability	State of Good Repair / Infrastructure	Livable Communities	Economic Competitiveness	Organizational Excellence	Total
SLSDC Fund (69x4089) ¹							
Agency Operations	\$0	\$0	\$0	\$0	\$17,821	\$0	\$17,821
Asset Renewal Program	\$0	\$0	\$0	\$0	\$17,075	\$0	\$17,075
TOTAL:	\$0	\$0	\$0	\$0	\$34,896	\$0	\$34,896

¹ The SLSDC Fund (69x4089) for FY 2012 is proposed to include \$33,996,000 in an appropriation from the Harbor Maintenance Trust Fund (HMTF) and \$900,000 in non-federal revenues. Each year, the SLSDC, as a government corporation, generates non-federal income from such sources as interest on investments, rental payments, pleasure craft tolls, tug services, and duty free store revenues.

EXHIBIT II-3a
FY 2012 BUDGET REQUEST BY DOT OUTCOMES
Saint Lawrence Seaway Development Corporation
(In thousands of dollars)

DOT Outcome	Program	FY 2012 Request
ECONOMIC COMPETITIVENESS		
Maximum economic returns on transportation policies and investments	SLSDC Agency Operations	\$17,821
	SLSDC Asset Renewal Program	\$17,075
	TOTAL (SLSDC Fund) ¹	\$34,896

¹ The SLSDC Fund (69x4089) for FY 2012 is proposed to include \$33,996,000 in an appropriation from the Harbor Maintenance Trust Fund (HMTF) and \$900,000 in non-federal revenues. Each year, the SLSDC, as a government corporation, generates non-federal income from such sources as interest on investments, rental payments, pleasure craft tolls, tug services, and duty free store revenues.

EXHIBIT II-4
FY 2012 BUDGET REQUEST BY APPROPRIATION ACCOUNT
Saint Lawrence Seaway Development Corporation
Budget Authority
(In thousands of dollars)

<u>ACCOUNT NAME</u>	<u>FY 2010 ACTUAL</u>	<u>FY 2011 CR ANNUALIZED</u>	<u>FY 2012 REQUEST</u>
<u>Appropriations Request</u>			
Operations and Maintenance - HMTF (69-8003)	\$32,324	\$32,324	\$33,996
<u>Non Federal Revenues/Reserve Drawdown</u>			
	\$1,225	\$900	\$900
	-----	-----	-----
Total SLSDC Funding:	\$33,549	\$33,224	\$34,896
<u>Total Program Budget</u>			
SLSDC Fund (69x4089) ¹			
Agency Operations	\$17,232	\$17,524	\$17,821
Asset Renewal Program	\$16,317	\$15,700	\$17,075
	-----	-----	-----
Totals:	\$33,549	\$33,224	\$34,896

¹ The SLSDC Fund (69x4089) for FY 2012 is proposed to include \$33,996,000 in an appropriation from the Harbor Maintenance Trust Fund (HMTF) and \$900,000 in non-federal revenues. Each year, the SLSDC, as a government corporation, generates non-federal income from such sources as interest on investments, rental payments, pleasure craft tolls, tug services, and duty free store revenues.

EXHIBIT II-5
FY 2012 BUDGET REQUEST BY APPROPRIATION ACCOUNT
Saint Lawrence Seaway Development Corporation
Outlays ¹
(In thousands of dollars)

<u>ACCOUNT NAME</u>	(A) FY 2010 <u>ACTUAL</u>	(B) FY 2011 CR <u>ANNUALIZED</u>	(C) FY 2012 <u>REQUEST</u>
<u>Total Program Budget</u>			
SLSDC Fund (69x4089) ²			
Agency Operations	\$15,708	\$16,000	\$16,000
Asset Renewal Program	\$10,189	\$14,000	\$17,000
	-----	-----	-----
Total Outlays (Program Budget):	\$25,897	\$30,000	\$33,000

¹ Outlays are reported on a cash expenditure basis.

² SLSDC Fund (69x4089) includes both annual appropriations from the Harbor Maintenance Trust Fund (69-8003) and non-federal revenues generated by the Corporation.

EXHIBIT II-6
SUMMARY OF REQUESTED FUNDING CHANGES FROM BASE
Saint Lawrence Seaway Development Corporation
(In thousands of dollars)

SLSDC Fund (69x4089) ¹	BASELINE CHANGES						FY 2012 Baseline Estimate	Program Increases/ Decreases	FY 2012 Request
	FY 2011 CR Annualized	FY 2012 WG Pay Raise	One Less Compensable Day	WCF/GSA Rent Increase ²	Non-Pay Inflation				
PERSONNEL RESOURCES	144								
Direct FTEs	144					144			144
FINANCIAL RESOURCES									
ADMINISTRATIVE EXPENSES									
Salaries and Benefits	\$3,726		(\$10)			\$3,716			\$3,716
Travel	\$67				\$1	\$68			\$68
Transportation	\$2					\$2			\$2
GSA Rent	\$292			\$41		\$333			\$333
Communications, Rent & Utilities	\$41					\$41			\$41
Printing	\$2					\$2			\$2
<i>Other Services:</i>									
- WCF	\$602			\$138		\$740			\$740
- Other	\$269				\$4	\$273			\$273
Supplies	\$31					\$31			\$31
Administrative Subtotal	\$5,032	\$0	(\$10)	\$179	\$5	\$5,206	\$0		\$5,206
PROGRAMS									
Agency Operations	\$12,492	\$138	(\$31)		\$16	\$12,615			\$12,615
Asset Renewal Program (ARP)	\$15,700					\$15,700	\$1,375		\$17,075
Programs Subtotal	\$28,192	\$138	(\$31)	\$0	\$16	\$28,315	\$1,375		\$29,690
TOTAL	\$33,224	\$138	(\$41)	\$179	\$21	\$33,521	\$1,375		\$34,896

¹ The SLSDC Fund (69x4089) for FY 2012 is proposed to include \$33,996,000 in an appropriation from the Harbor Maintenance Trust Fund (HMTF) and \$900,000 in non-federal revenues. Each year, the SLSDC, as a government corporation, generates non-federal income from such sources as interest on investments, rental payments, pleasure craft tolls, tug services, and duty free store revenues.

² "WCF/GSA Rent Increase" column includes increases of \$138,000 for the DOT Working Capital Fund (WCF) and \$41,000 for GSA rent for Washington Headquarters office space.

EXHIBIT II-7
WORKING CAPITAL FUND
Saint Lawrence Seaway Development Corporation
(In thousands of dollars)

<u>ACCOUNT NAME</u>	<u>FY 2010 ENACTED</u>	<u>FY 2011 CR ANNUALIZED</u>	<u>FY 2012 REQUEST</u>	<u>DIFFERENCE (2012-2010)</u>
DIRECT:				
SLSDC Fund (69x4089) ¹	\$401	\$602	\$740	\$339
	-----	-----	-----	-----
TOTAL:	\$401	\$602	\$740	\$339

¹ SLSDC Fund (69x4089) includes both annual appropriations from the Harbor Maintenance Trust Fund (69-8003) and non-federal revenues generated by the Corporation.

EXHIBIT II-8
Saint Lawrence Seaway Development Corporation
PERSONNEL RESOURCE -- SUMMARY
Total Full-Time Equivalentts

<u>ACCOUNT(S)</u>	<u>FY 2010 ACTUAL</u>	<u>FY 2011 CR ANNUALIZED</u>	<u>FY 2012 REQUEST</u>
SLSDC Fund (69x4089) ¹	135	144	144
	-----	-----	-----
TOTAL FTEs:	135	144	144

¹ SLSDC Fund (69x4089) includes both annual appropriations from the Harbor Maintenance Trust Fund (69-8003) and non-federal revenues generated by the Corporation.

Note: The reduction in FTEs in FYs 2011 and 2012 was made to more accurately reflect the personnel level supported by the SLSDC's Agency Operations program budget request.

EXHIBIT II-9
Saint Lawrence Seaway Development Corporation
RESOURCE SUMMARY -- STAFFING
Full-Time Permanent Positions

<u>ACCOUNT(S)</u>	<u>FY 2010 ACTUAL</u>	<u>FY 2011 CR ANNUALIZED</u>	<u>FY 2012 REQUEST</u>
SLSDC Fund (69x4089) ¹	135	144	144
	-----	-----	-----
TOTAL POSITIONS:	135	144	144

¹ SLSDC Fund (69x4089) includes both annual appropriations from the Harbor Maintenance Trust Fund (69-8003) and non-federal revenues generated by the Corporation.

Note: The reduction in FTEs in FYs 2011 and 2012 was made to more accurately reflect the personnel level supported by the SLSDC's Agency Operations program budget request.

**Budget Request
by Account**

Operations and Maintenance (69-8003)

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**DEPARTMENT OF TRANSPORTATION
SAINT LAWRENCE SEAWAY DEVELOPMENT CORPORATION**

TRUST FUNDS

OPERATIONS AND MAINTENANCE

(Harbor Maintenance Trust Fund)

For necessary expenses for operations, maintenance, and capital asset renewal of those portions of the St. Lawrence Seaway owned, operated, and maintained by the Saint Lawrence Seaway Development Corporation, \$33,996,000, to be derived from the Harbor Maintenance Trust Fund, pursuant to Public Law 99-662. *Note. — A full-year 2011 appropriation for this account was not enacted at the time the budget was prepared; therefore, this account is operating under a continuing resolution (P.L. 111-242, as amended). The amounts included for 2011 reflect the annualized level provided by the continuing resolution.*

**DEPARTMENT OF TRANSPORTATION
 SAINT LAWRENCE SEAWAY DEVELOPMENT CORPORATION
 OPERATIONS AND MAINTENANCE
 Program and Financing
 (In thousands of dollars)**

Identification code 69-8003-0-7-403	2010 ACTUAL	2011 CR ANNUALIZED	2012 REQUEST
Obligations by program activity:			
10.00 Total new obligations (object class 25.2)	32,324	32,324	33,996
Budgetary resources available for obligation:			
22.00 New budget authority (gross)	32,324	32,324	33,996
23.95 Total new obligations (-)	(32,324)	(32,324)	(33,996)
New budget authority (gross), detail:			
Discretionary			
40.26 Appropriation (trust fund, definite)	32,324	32,324	33,996
40.75 Reduction	...	...	...
43.00 Appropriation (total discretionary)	32,324	32,324	33,996
Change in unpaid obligations:			
73.10 Total new obligations	32,324	32,324	33,996
73.20 Total outlays (gross) (-)	(32,324)	(32,324)	(33,996)
Outlays (gross), detail:			
86.90 Outlays from new discretionary authority	32,324	32,324	33,996
New budget authority and outlays:			
89.00 Budget authority	32,324	32,324	33,996
90.00 Outlays	32,324	32,324	33,996

The Water Resources Development Act of 1986 authorizes use of the Harbor Maintenance Trust Fund as the major source of funding for the Corporation's operations and maintenance activities.

**DEPARTMENT OF TRANSPORTATION
 SAINT LAWRENCE SEAWAY DEVELOPMENT CORPORATION
 10-Year History of Appropriations
 Operations and Maintenance (69-8003)
 (Harbor Maintenance Trust Fund)**

<u>YEAR</u>	<u>REQUEST</u>	<u>YEAR</u>	<u>ENACTED</u>
2003	\$14,086,000	2003	\$13,974,000 /1
2004	\$14,400,000	2004	\$14,273,000 /2
2005	\$15,900,000	2005	\$15,707,000 /3
2006	\$ 8,000,000 /4	2006	\$16,121,000 /5
2007	\$ 7,920,000 /6	2007	\$16,223,160 /7
2008	\$17,392,000	2008	\$17,392,000
2009	\$31,842,000	2009	\$31,842,000
2010	\$32,324,000	2010	\$32,324,000
2011	\$32,324,000		
2012	\$33,996,000		

1/ Reflects reductions of \$91,559 pursuant to P.L. 108-7 (Sec. 601) and \$20,000 pursuant to P.L. 108-7 (Sec. 362).

2/ Reflects reductions of \$84,960 (0.59%) pursuant to P.L. 108-199 (Division H, Sec. 168(b)) and \$42,006 pursuant to P.L. 108-199 (Division F, Sec. 517).

3/ Reflects reductions of \$127,200 (0.80%) pursuant to P.L. 108-447 (Div. J, Sec. 122(a)) and \$66,000 pursuant to P.L. 108-447 (Division H, Title I, Sec. 197)

4/ Total program request of \$16,284,000 consists of an appropriation of \$8,000,000 from the Harbor Maintenance Trust Fund (69-8003) and \$8,284,000 in proposed U.S. commercial toll receipts.

5/ Reflects reductions of \$162,840 (1.00%) pursuant to P.L. 109-148 (Sec. 3801).

6/ Total request of \$17,345,000 consists of an appropriation of \$7,920,000 from the Harbor Maintenance Trust Fund (69-8003) and \$9,425,000 in proposed U.S. commercial toll receipts.

7/ Reflects reductions of \$1,121,840, pursuant to P.L. 110-5 (Division B, Title I, Sec. 101(a) and Sec. 111(a)(1)).

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SLSDC Fund

(69x4089)

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**DEPARTMENT OF TRANSPORTATION
SAINT LAWRENCE SEAWAY DEVELOPMENT CORPORATION**

FEDERAL FUNDS

Public enterprise funds:

Saint Lawrence Seaway Development Corporation

The Saint Lawrence Seaway Development Corporation is hereby authorized to make such expenditures, within the limits of funds and borrowing authority available to the Corporation, and in accord with law, and to make such contracts and commitments without regard to fiscal year limitations as provided by section 104 of the Government Corporation Control Act, as amended, as may be necessary in carrying out the programs set forth in the Corporation's budget for the current fiscal year. *Note. — A full-year 2011 appropriation for this account was not enacted at the time the budget was prepared; therefore, this account is operating under a continuing resolution (P.L. 111-242, as amended). The amounts included for 2011 reflect the annualized level provided by the continuing resolution.*

EXHIBIT III-1

SAINT LAWRENCE SEAWAY DEVELOPMENT CORPORATION
Summary by Program Activity
(In thousands of dollars)

<u>Program Activity</u>	<u>FY 2010 ENACTED</u>	<u>FY 2011 CR ANNUALIZED</u>	<u>FY 2012 REQUEST</u>	<u>CHANGE FY 2010-12</u>
Agency Operations	\$16,907	\$17,524	\$17,821	\$ 914
Asset Renewal Program	\$16,317	\$15,700	\$17,075	758
	-----	-----	-----	-----
Total	\$33,224	\$33,224	\$34,896	\$ 1,662
FTEs	157	144	144	(13)

¹ The SLSDC Fund (69x4089) for FY 2012 is proposed to include \$33,996,000 in an appropriation from the Harbor Maintenance Trust Fund (HMTF) and \$900,000 in non-federal revenues. Each year, the SLSDC, as a government corporation, generates non-federal income from such sources as interest on investments, rental payments, pleasure craft tolls, tug services, and duty free store revenues.

Note: The reduction in FTEs in FYs 2011 and 2012 was made to more accurately reflect the personnel level supported by the SLSDC's Agency Operations program budget request.

Program and Performance Statement

The SLSDC's total program budget request for FY 2012 is \$34.9 million to fund general agency operations (\$17.8 million) as well as 23 capital and non-capital maintenance projects included in the fourth year of the SLSDC's multi-year Asset Renewal Program (ARP) (\$17.1 million) (*see pages 54-59 for ARP project estimates and descriptions*). Funding for the request is proposed to be derived from an appropriation from the Harbor Maintenance Trust Fund (HMTF) (\$34.0 million) and SLSDC non-federal revenues (estimated at \$900,000).

SLSDC programs and activities, including the ARP, directly support the Department's "Economic Competitiveness" strategic objective and the Departmental outcome related to maximizing economic results on transportation policies and investments.

The SLSDC measures operational performance based on its ability to provide global customers with a safe, efficient, and reliable waterway and lock system. To that end, the SLSDC sets an annual availability rate of 99 percent for the U.S. Seaway sector and locks as its core performance measure, which it has consistently maintained throughout the waterway's history, beginning in 1959. In FY 2010, the SLSDC met its performance goal with an availability rate of 99.8 percent.

In addition to the operations and maintenance of the U.S. portion of the Seaway, the SLSDC also supports regional efforts to promote and market the waterway to generate additional tonnage for the system and has taken a leadership role in the region on ballast water management issues.

EXHIBIT III-1a

**SAINT LAWRENCE SEAWAY DEVELOPMENT CORPORATION
SLSDC FUND (69x4089)**

**SUMMARY ANALYSIS OF CHANGES FROM FY 2011 TO FY 2012
(In thousands of dollars)**

Item	Change from FY 2011 to FY 2012	FY 2012 PC&B by Program	FY 2012 FTEs by Program	FY 2012 Contract Expenses	Total
FY 2011 CR Annualized		Note: Columns are Non-Add			
SLSDC Fund (69x4089) ¹			144		\$33,224
Adjustments to Base					
2012 Pay Increase for Wage Grade Employees (no pay raise for General Schedule (GS) employees)	138				
One Less Compensable Day	(41)				
Working Capital Fund	138				
DOT HQ Rent	41				
Non-Pay Inflation	21				
Subtotal, Baseline Changes					\$297
Program Changes					
Increase to Asset Renewal Program for Year Four	\$1,375				
Subtotal, Program Changes					\$1,375
FY 2012 Request (69x4089)			144		\$34,896

¹ The SLSDC Fund (69x4089) for FY 2012 is proposed to include \$33,996,000 in an appropriation from the Harbor Maintenance Trust Fund (HMTF) and \$900,000 in non-federal revenues. Each year, the SLSDC, as a government corporation, generates non-federal income from such sources as interest on investments, rental payments, pleasure craft tolls, tug services, and duty free store revenues.

EXHIBIT III-2

ANNUAL PERFORMANCE RESULTS AND TARGETS SAINT LAWRENCE SEAWAY DEVELOPMENT CORPORATION

The SLSDC integrates performance results into its budget request to demonstrate alignment with the Department of Transportation’s strategic objectives. The SLSDC tracks the following agency performance measure in support of the DOT strategic objective of “Economic Competitiveness”:

DOT Objective/Outcome: Economic Competitiveness – Maximum economic returns on transportation policies and investments

Measure: Percent of days in the shipping season that the U.S. portion of the St. Lawrence Seaway System is available.

Seaway System Availability	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Target:	99.0%	99.0%	99.0%	99.0%	99.0%	99.0%
Actual:	99.4%	98.8%	99.4%	99.8%	---	---

In measuring system downtime, the SLSDC includes minutes/hours of delay for weather, including visibility; vessel incidents; insufficient water levels or high velocities; and lock equipment malfunction.

**DEPARTMENT OF TRANSPORTATION
SAINT LAWRENCE SEAWAY DEVELOPMENT CORPORATION
SLSDC FUND
Program and Financing
(In thousands of dollars)**

Identification code 69-4089-0-3-403	2010 ACTUAL	2011 CR ANNUALIZED	2012 REQUEST
Obligations by program activity:			
00.01 Operations and maintenance	22,555	17,524	17,821
00.02 Replacements and improvements	10,047	15,700	17,075
10.00 Total new obligations	32,602	33,224	34,896
Budgetary resources available for obligation:			
Unobligated balance carried forward, start of year:			
21.47 Authority to borrow	3,200	3,200	3,200
21.90 Fund balance	11,284	11,890	11,890
21.40 Unobligated balance carried forward, start of year	14,484	15,090	15,090
22.00 New budget authority (gross)	33,166	33,224	34,896
22.10 Resources available from recoveries of prior year obligations	41	...	...
23.90 Total budgetary resources available for obligation	47,691	48,314	49,986
23.95 Total new obligations (-)	(32,602)	(33,224)	(34,896)
Unobligated balance carried forward, end of year:			
24.47 Authority to borrow	3,200	3,200	3,200
24.90 Fund balance	11,890	11,890	11,890
24.40 Unobligated balance carried forward, end of year	15,090	15,090	15,090
Net budget authority (gross), detail:			
Mandatory: Spending authority from offsetting collections:			
69.00 Offsetting collections (cash)	33,219	33,224	34,896
69.10 Change in uncollected payments from Federal sources	(53)	...	...
69.90 Spending authority from offsetting collections (total)	33,166	33,224	34,896
Change in obligated balance:			
72.40 Obligated balance, start of year	18,515	25,232	25,232
73.10 Total new obligations	32,602	33,224	34,896
73.20 Total outlays (gross) (-)	(25,897)	(33,224)	(34,896)
73.45 Recoveries of prior year obligations (-)	(41)	...	...
74.00 Change in uncollected payments from Federal sources	53	...	...
74.40 Obligated balance, end of year	25,232	25,232	25,232
Outlays (gross), detail:			
86.97 Outlays from new mandatory authority	25,897	33,224	34,896
Offsets:			
Against gross budget authority and outlays:			
Offsetting collections (cash) from:			
88.00 Federal sources	32,324	32,324	33,996
88.40 Non-Federal sources	895	900	900
88.90 Total offsetting collections (cash)	33,219	33,224	34,896
Against gross budget authority only:			
88.95 Change in uncollected payments from Federal sources	(53)	...	...
Net budget authority and outlays:			
89.00 Budget authority (net)	...	...	...
90.00 Outlays (net)	(7,322)	...	...

**DEPARTMENT OF TRANSPORTATION
SAINT LAWRENCE SEAWAY DEVELOPMENT CORPORATION
SLSDC FUND
Balance Sheet
(In thousands of dollars)**

Identification code 69-4089-0-3-403	2009 ACTUAL	2010 ACTUAL
Assets:		
Federal assets:		
1101 Fund balance with Treasury	18,492	25,815
1106 Receivables, net	...	...
1107 Advances and prepayments	...	...
Non-Federal assets:		
1201 Investments in non-Federal securities	7	7
1206 Receivables, net	113	86
1207 Advances and prepayments	...	...
Other Federal assets:		
1801 Cash and other monetary assets	12,190	12,166
1803 Property, plant and equipment, net	73,533	75,687
1901 Other assets	3,484	3,547
1999 Total assets	107,819	117,308
Liabilities:		
Federal liabilities:		
2101 Accounts payable	...	...
Non-Federal liabilities:		
2201 Accounts payable	3,464	3,824
2206 Pension and other actuarial liabilities	3,457	3,546
2207 Other	...	...
2999 Total liabilities	6,921	7,370
Net Position:		
3200 Invested capital	88,662	90,819
3300 Cumulative results of operations	12,236	19,119
3999 Total net position	100,898	109,938
4999 Total liabilities and net position	107,819	117,308

**DEPARTMENT OF TRANSPORTATION
SAINT LAWRENCE SEAWAY DEVELOPMENT CORPORATION
SLSDC FUND
Object Classification
(In thousands of dollars)**

Identification code 69-4089-0-3-403	2010 ACTUAL	2011 CR ANNUALIZED	2012 REQUEST
Personnel compensation:			
11.1 Full-time permanent	9,462	9,616	9,713
11.3 Other than full-time permanent	216	216	216
11.5 Other personnel compensation	486	486	486
11.9 Total personnel compensation	10,164	10,318	10,415
12.1 Civilian personnel benefits	3,229	3,404	3,404
Personnel compensation and benefits	13,393	13,722	13,819
21.0 Travel and transportation of persons	233	233	235
22.0 Transportation of things	5	5	5
23.1 Rental payments to GSA	305	317	358
23.2 Rental payments to others	11	11	11
23.3 Communications, utilities, and miscellaneous	146	146	148
23.0 Total rent, communications, and utilities	462	474	517
24.0 Printing and reproduction	12	20	20
25.1 Advisory and assistance services	40	20	20
25.2 Other services	1,665	383	386
25.3 Purchases of goods/services from Government accounts	654	839	977
25.4 Operation and maintenance of facilities (includes ARP)	6,126	622	627
25.6 Medical care	6	6	6
25.7 Operation and maintenance of equipment	575	326	329
25.0 Total other contractual services	9,065	2,196	2,345
26.0 Supplies and materials	1,398	874	880
31.0 Equipment (includes ARP)	1,790	991	1,940
32.0 Land and structures (includes ARP)	6,244	14,709	15,135
Total other-than-personnel	19,209	19,502	21,077
99.9 Total obligations	32,602	33,224	34,896

**DEPARTMENT OF TRANSPORTATION
SAINT LAWRENCE SEAWAY DEVELOPMENT CORPORATION
SLSDC FUND
Summary of Expenses by Activity
(In thousands of dollars)**

Identification code 69-4089-0-3-403	2010 ACTUAL	2011 CR ANNUALIZED	2012 REQUEST
Operations and Maintenance:			
1. Lock and Marine Operations	3,680	3,717	3,780
2. Maintenance and Engineering	10,417	5,265	5,354
3. General and Development	4,716	4,763	4,844
4. Administrative	3,742	3,779	3,843
Total Operations and Maintenance	22,555	17,524	17,821
Replacements and Improvements:			
1. Equipment	252	991	1,940
2. Capital Projects	9,795	14,709	15,135
Total Replacements and Improvements	10,047	15,700	17,075
Total Obligations	32,602	33,224	34,896
Authorized Positions by Activity:			
1. Lock and Marine Operations	46	51	51
2. Maintenance and Engineering	63	51	51
3. General and Development	16	15	15
4. Administrative	32	27	27
Total Authorized Positions	157	144	144

**DEPARTMENT OF TRANSPORTATION
SAINT LAWRENCE SEAWAY DEVELOPMENT CORPORATION
SLSDC FUND**

**Summary of Travel and Transportation of Persons
(In thousands of dollars)**

Identification code 69-4089-0-3-403	2010 ACTUAL	2011 CR ANNUALIZED	2012 REQUEST
Field Offices:			
Business travel			
Operations	27	27	28
Administrative	1	1	1
Travel associated with training	35	35	35
Travel to and from Washington, D.C.	12	12	12
Travel to and from Massena, N.Y.	0	0	0
Foreign travel	0	0	0
Canadian travel	7	7	7
Subtotal	82	82	83
DC Office:			
Business travel			
Operations	17	17	18
Administrative	27	27	27
Travel associated with training	2	2	2
Travel to and from Washington, D.C.	5	5	5
Travel to and from Massena, N.Y.	13	13	13
Foreign travel	6	6	6
Canadian travel	60	60	60
Subtotal	130	130	131
Asset Renewal Program	21	21	21
Grand Total	233	233	235

DEPARTMENT OF TRANSPORTATION
SAINT LAWRENCE SEAWAY DEVELOPMENT CORPORATION
SLSDC FUND
Personnel Summary

Identification code 69-4089-0-3-403	2010 ACTUAL	2011 CR ANNUALIZED	2012 REQUEST
Total compensable work years:			
5001 Full-time equivalent employment	135	144	144
5005 Full-time equivalent of overtime and holiday hours	3	6	6

**Budget Request
by Program**

Agency Operations

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Executive Summary: Agency Operations

What Is the Request and What Will We Get for the Funds?

The SLSDC is requesting \$17.9 million and 144 full-time equivalent employees (FTEs) for its Agency Operations program in FY 2012 to operate and maintain the U.S. portion of the St. Lawrence Seaway. The request represents an increase of \$914,000 (*all baseline costs*) compared to the FY 2010 enacted level with a reduction of 13 FTEs. At the request level, the SLSDC will be able to continue performing its core mission functions of lock operations, waterway management, and vessel inspections, while also working to increase Seaway trade and to manage ballast water activities.

What Is the Program?

The SLSDC's Agency Operations program consists of all agency activities, except for the ongoing Asset Renewal Program (ARP) for capital infrastructure replacements and improvements. The Corporation is responsible for the safe, reliable, efficient, and environmentally responsible operation of the U.S. portion of the binational waterway and lock system for commercial users moving goods to and from the Midwest region of North America. Primary program activities include lock operations and maintenance, vessel traffic control, vessel safety and environmental inspections, and customer outreach. The program also includes all Corporation personnel compensation and benefit costs.

Why Is This Particular Program Necessary?

The St. Lawrence Seaway is the principal waterborne route and link for the movement of commercial goods to and from the Great Lakes. Both the United States and Canada are mutually responsible for ensuring that the locks and channels are safe and reliable for commercial users and are responsible for performing vessel traffic control and maintenance activities. Without this program, industry would incur an additional \$3.6 billion in annual transportation costs to move cargoes on the next least expensive mode of transportation. In addition, SLSDC operations resulting in maritime commerce on the Seaway System impacts 150,000 U.S. jobs, and generates annually \$4.3 billion in personal income and \$3.4 billion in business revenues.

How Do You Know the Program Works?

Since opening in 1959, the SLSDC has consistently maintained a 99 percent reliability rate for its locks and the U.S. sector of the waterway. This high mark of success is due primarily to the SLSDC's efficient management and operations of the locks and control of vessel traffic. Global customers return each year to use the Seaway because of its strong safety record, efficient operations, and near-perfect reliability rate – all program outcomes. In addition, the program's business practices are International Standards Organization (ISO) certified annually for quality and customer focus.

Why Do We Want/Need to Fund the Program at the Requested Level?

The requested level will provide the SLSDC with the financial and personnel resources necessary to perform the operational, maintenance, and administrative functions of the agency. The Corporation has made a concerted effort in recent years to reduce overhead expenses while ensuring that program activities are performed at or above performance targets and within budgetary limits.

Detailed Justification for Agency Operations

What Do I Need to Know before Reading this Justification?

- The St. Lawrence Seaway is a binational waterway and lock system, which connects the Great Lakes to the Atlantic Ocean for commercial waterway trade and is jointly operated by the United States (SLSDC) and Canada (St. Lawrence Seaway Management Corporation – SLSMC).
- Both nations made commitments to each other more than 50 years ago through binding international agreements to operate and maintain their respective portions of the waterway.
- Opened to navigation in 1959, the St. Lawrence Seaway has moved more than 2.5 billion metric tons of cargo with an estimated value of more than \$375 billion. Almost 25 percent of this cargo travels to and from overseas ports.
- SLSDC operations resulting in the movement of maritime commerce on the Great Lakes Seaway System impacts 150,000 U.S. jobs, generates \$4.3 billion annually in personal income and \$3.4 billion annually in business revenues, and provides \$3.6 billion in annual transportation cost savings compared to the next least expensive mode of transportation.
- The FY 2012 request for the Agency Operations program includes only baseline increases; no program changes.

What is the Request and What Will We Get for the Funds?

**FY 2012 Agency Operations Budget Request
SLSDC Fund (69x4089)¹
(In thousands of dollars)**

Program Activity	FY 2010 Enacted	FY 2011 CR Annualized	FY 2012 Request	Difference (2012-2010)
Administrative	\$4,721	\$5,032	\$5,206	\$485
Operational	\$12,186	\$12,492	\$12,615	\$429
Total	\$16,907	\$17,524	\$17,821	\$914

For FY 2012, the SLSDC is requesting \$17.9 million and 144 full-time equivalents (FTEs) for its Agency Operations program. The request represents an overall increase of \$914,000 (*all baseline changes*) compared to the FY 2010 enacted level with no change to the FTE level. Net baseline increases relate to the annual pay raise for SLSDC unionized wage grade employees (*based on the terms of the SLSDC’s existing collective bargaining agreement*), GSA rent for office space at the DOT Headquarters, DOT Working Capital Fund (WCF) costs, and non-pay inflation. The FY 2012 request represents the fifth consecutive year in which the Corporation is not requesting a program increase for this program. The reductions in FTE in FYs 2011 and 2012 from 157 to 144 was made to more accurately reflect the personnel level supported by the SLSDC’s Agency Operations program budget request.

¹ The SLSDC Fund (69x4089) includes annual appropriations from the Harbor Maintenance Trust Fund (HMTF) and \$900,000 in estimated annual non-federal revenues.

At the request level, the SLSDC will:

- (1) Continue operating a safe, secure, and efficient commercial trade route with a reliability rate in the U.S. sector of the system of 99 percent or greater through safe and effective operations of the two U.S. Seaway locks and efficient waterway management.
- (2) Continue close coordination and involvement with the Canadian SLSMC to ensure consistent practices and greater economies of scale.
- (3) Perform safety inspections and ballast water examinations of all foreign-flag vessels entering the St. Lawrence Seaway in Montreal, Que., prior to entering U.S. waters.

Through its waterway management and lock operations program, the SLSDC will continue to provide commercial users with a safe, efficient, and environmentally friendly transportation route for the moving of goods to and from the heartland of North America.

The SLSDC's principal performance goal is to provide a safe, secure, reliable, and efficient U.S. portion of the St. Lawrence Seaway to its commercial users. The annual goal is 99 percent availability of the U.S. section of the Seaway, including the two U.S. locks, during the navigation season.

During FY 2010, the SLSDC reported a 99.8 percent system availability, surpassing the annual target of 99.0 percent. This goal measures the percent of days in the shipping season that the U.S. portion of the St. Lawrence Seaway is available. This high mark of success is due primarily to the SLSDC's efficient management and operations of the locks and control of vessel traffic.

SLSDC activities associated with the Agency Operations program directly support its core performance measure of system availability and the Department's "Economic Competitiveness" strategic objective and outcome related to maximizing economic results on transportation policies and investments.

Vessel Safety Inspections

In FY 2012, SLSDC will continue to perform inspections of all commercial ocean vessels in Montreal during their first inbound transit each year for safety and environmental compliance to ensure the safety of transiting vessels and the Seaway locks as well as the protection of U.S. and Canadian waters from invasive species. Annually, SLSDC marine inspectors complete more than 200 inspections. The SLSDC maintains an internal performance metric of inspecting 100 percent of foreign-flag vessels each year and it has met the goal each year since the program began in 1997.

Trade Development

In addition to these core mission areas, the Corporation will also continue to strengthen existing trading partner relations and promote new markets through its trade development initiatives, in an effort to increase Seaway commerce. The Seaway is positioned for significant growth in new business as the waterway has become a viable option for shippers looking to avoid highway and

railway congestion. In 2009, 1.6 million metric tons of new cargo transited the system, including windmill parts and biofuels, due to binational efforts to market the waterway and reduce user costs. In FY 2012, the SLSDC will continue to work with the Canadian SLSMC to identify niche commodities and new markets to further increase Seaway trade.

In FY 2012, the SLSDC will also continue its ballast water management efforts to prevent any new introductions of aquatic invasive species (AIS) via commercial vessels entering Seaway waters. In 2008, the SLSDC implemented regulations requiring all ships with no ballast in their tanks to conduct saltwater flushing of their empty ballast water tanks before arriving in the Seaway.

Ballast Water Management

In addition, the SLSDC, along with the other U.S. and Canadian partners, have enforced ballast water inspections of all vessels to ensure the regulations are carried out. In 2009, 100 percent of cargo vessels bound for Great Lakes Seaway System ports received a ballast water or ballast tank exam. Ships that failed to properly manage their ballast tanks were required to either retain the ballast water and residuals on board, treat the ballast water in an environmentally sound and approved manner, or return to sea to conduct a ballast water exchange. Vessels given letters of retention were boarded and checked on their outbound transit at the SLSDC's U.S. Eisenhower Lock in Massena, N.Y. for compliance. The Great Lakes Aquatic Nonindigenous Species Information System (GLANSIS), maintained by the National Oceanic and Atmospheric Administration (NOAA), documents that the last time a new non-native species was determined to have been established in the Great Lakes was 2006.

Also, in FY 2009 the SLSDC initiated the Great Lakes Ballast Water Collaborative (BWC), in conjunction with the International Joint Commission (IJC), to bring together industry and state and federal regulators on the issue of ballast water and invasive species in the region. One of the primary goals of the BWC is to share relevant, useful, and accurate information and to foster better communication and collaboration among the key stakeholders seeking to reduce the risks associated with the introduction and spread of aquatic nuisance species. A particular emphasis of the BWC has been to bring state representatives together with marine industry representatives and respected scientists to find workable and effective solutions to the aquatic invasive species challenge as they relate to the Great Lakes St. Lawrence Seaway System.

In September 2009, the BWC held its first meeting in Detroit, Mich., as an information-sharing forum on ballast water issues for the Great Lakes Seaway System. Since that first meeting, there have been three additional full BWC meetings – May 2010 in Montreal, Que., July 2010 in Duluth, Minn., and January 2011 in Toronto, Ont.

The BWC has attracted the active participation of more than 100 different U.S. and Canadian senior-level officials and executives, including representatives from state and provincial governments (Minnesota, Wisconsin, Illinois, Ohio, Michigan, New York, and Ontario); U.S. and Canadian regulatory agencies; U.S.-flag laker, Canadian-flag laker, and international fleets; and leading academic ballast water researchers from Canada and the United States.

What is the Program?

The SLSDC's Agency Operations program consists of all agency activities, except for the on-going Asset Renewal Program (ARP) for capital infrastructure replacements and improvements. The Corporation is responsible for the operation of the U.S. portion of the binational waterway and lock system for commercial users moving goods to and from the Midwest region of North America.

SLSDC activities associated with the Agency Operations program directly support its core performance measure of system availability and the Department's "Economic Competitiveness" strategic goal and the Department's outcome measure of maximizing economic results on transportation policies and investments.

The SLSDC performs a number of activities each year as part of the Agency Operations program:

Lock Operations – Lock Operations and vessel traffic control on the St. Lawrence Seaway are conducted on a 24-hour day, 7-day week basis throughout the shipping season (typically late March to late December).

Maintenance, Marine, and Engineering – The Corporation facilities must be maintained in efficient operating condition. Facilities include: locks and guidewalls; roads; an international bridge; a highway tunnel; channels; public use facilities, such as the Eisenhower Lock Visitors' Center; navigation aids; buildings, grounds, and utilities; and permanent operating equipment. Major maintenance on existing facilities will continue to be performed during the non-navigation winter months. Marine operations consist of commissioning and decommissioning aids to navigation, channel dredging and maintenance, tugboat and other floating equipment services.

Trade Development – The Corporation engages in activities designed to increase public awareness of the Seaway. This includes costs associated with initiatives aimed at identifying new markets for, and increasing use of, the Great Lakes St. Lawrence Seaway System.

Security and Infrastructure Protection – The Corporation continues to perform its security program focused on protecting the U.S. sections of the St. Lawrence Seaway, including the two U.S. locks and other assets in Massena, N.Y., and its employees.

Administrative – Executive management and administration of the Corporation includes legal, civil rights, accounting, procurement, information technology, personnel administration, public relations, and other related administrative support services.

Approximately 80 percent of this program budget funds employee salaries and benefits. The remaining 20 percent of funds are used for operations and non-capital maintenance of the Seaway locks and facilities, vessel traffic control, equipment, supplies, vessel safety and environmental inspections, staff travel and training, and marketing activities.

The Agency Operations program is broken down into two categories – Administrative and Operational. To maximize its funding for operational programs and initiatives, the SLSDC constantly works toward attaining its internal performance measure of managing agency administrative expenses as a percentage of all operating costs at 25 percent or less. This level of overhead expenses, well below baseline federal and state government levels, was established based on an analysis of private-sector goals for companies of similar size. In FY 2010, the SLSDC's administrative cost percentage was 23 percent, the seventh consecutive fiscal year that the goal was met.

The SLSDC has implemented a number of activities to achieve the administrative cost ratio goal, including reducing costs associated with supplies and materials and administrative contractual services, and investigating new technologies to reduce administrative overhead costs. In addition, the Corporation implemented a succession planning program in 2006 to effectively manage the separation and/or retirement of administrative and management personnel to ensure efficient operations, while seeking to reduce positions wherever possible and to lower costs associated with personnel compensation and benefits.

FY 2011 Base: The FY 2011 President's Budget request (base level) for the SLSDC's Agency Operations program was \$17.5 million.

Anticipated FY 2011 Accomplishments: In FY 2011, the SLSDC will:

- Provide a safe, secure, and efficient commercial trade route with a reliability rate of 99 percent or greater through vessel traffic control operations and infrastructure maintenance.
- Continue close coordination and involvement with the Canadian SLSMC in all aspects of Seaway operations and trade development to ensure consistent practices and greater economies of scale. The two agencies will continue to work cooperatively on the vessel inspection procedures of foreign-flagged vessels, invasive species activities affecting the Great Lakes Seaway System, and binational trade development initiatives including the Highway H₂O program and Short Sea Shipping activities.
- Perform safety inspections and ballast water exams of all foreign-flag vessels entering the St. Lawrence Seaway in Montreal, prior to entering U.S. waters.
- Use and enhance technologies to more efficiently manage vessel traffic control and lock transits. The St. Lawrence Seaway was the first inland waterway in the western hemisphere to implement an operational Global Positioning System/Automatic Identification System (GPS/AIS) vessel traffic system.
- Participate in various federal and department-wide activities, including electronic payroll and training, cyber security, disaster management, and automated staffing.

Why Is This Particular Program Necessary?

The SLSDC is responsible for the operations and maintenance of the U.S. portion of the binational St. Lawrence Seaway, including the two U.S. Seaway locks in Massena, N.Y. The mission of the Corporation, which is directly linked to this program, is to serve the U.S. intermodal and international transportation system through the operation and maintenance of a safe, reliable, efficient, and environmentally responsible deep-draft waterway, in cooperation with its Canadian counterpart. The SLSDC also encourages the development of trade through the Great Lakes Seaway System, which contributes to the comprehensive economic and environmental development of the entire Great Lakes region.

Approximately 40-50 million metric tons of cargo is transported on the St. Lawrence Seaway annually to and from more than 50 nations. Principal commodities include grain, iron ore, coal, steel, and project cargoes. The St. Lawrence Seaway directly serves an eight-state, two-province region that accounts for 29 percent of the U.S. gross domestic product (GDP), 55 percent of North America's manufacturing and services industries, and is home to one-quarter of the continent's population. In fact, maritime commerce on the Great Lakes Seaway System impacts 150,000 U.S. jobs, generates \$4.3 billion annually in personal income and \$3.4 billion annually in business revenues, and provides approximately \$3.6 billion in annual transportation cost savings compared to the next least expensive mode of transportation. Since it opened in 1959, the St. Lawrence Seaway has handled more than 2.5 billion metric tons of cargo valued in excess of \$375 billion.

There are no viable alternatives to this program. By law, the SLSDC is required to operate and maintain its portion of the St. Lawrence Seaway with an identical legislative mandate in Canada for the SLSMC. In addition to these legislative authorities, both nations also executed an Exchange of Notes between 1952 and 1954 establishing the terms of constructing, managing, and operating the Seaway jointly. These diplomatic notes, which have the full force and effect of a treaty between the two countries, have remained in effect since their official exchange. The SLSDC remains committed to fulfilling this binding international obligation.

How Do You Know the Program Works?

Since opening in 1959, the SLSDC has consistently maintained a 99 percent reliability rate for its locks and the U.S. sector of the waterway. This high mark of success is due primarily to the SLSDC's efficient management and operations of the locks and control of vessel traffic. Global customers from more than 50 nations return each year to use the Seaway because of the waterway's strong safety record, efficient operations, and near-perfect reliability rate – all program outcomes of the SLSDC's Agency Operations program.

In 1998, the SLSDC began the process of measuring the success of its Agency Operations program by certifying its operational business practices through the internationally recognized International Standards Organization (ISO). The ISO recognition is only conferred on those service firms and organizations that meet the highest quality customer service and management standards set by the Geneva, Switzerland-based ISO.

In June 2010, the SLSDC successfully completed a two-day surveillance audit of its ISO 9001:2008 certified quality management system, conducted by Lloyds Register of Quality Assurance, an independent accrediting agency. The ISO 9001:2008 standard focuses on self assessment, ongoing improvements, and performance metrics.

Incorporation of these quality concepts, at all levels within the Corporation, has improved customer awareness, significantly enhanced communication with Seaway customers, and improved services. The SLSDC's certification is internationally recognized and complements the agency's marketing and trade development efforts overseas. Customer complaints have been greatly reduced, while positive customer comments have increased.

Maintaining the ISO certification has kept agency officials focused on finding better ways of operating the waterway and of recognizing how agency initiatives and decisions affect its internal and external customers. Other benefits of the SLSDC's ISO certification include improved communications within the organization, redefined business processes that are clearly understood by employees, and integrated performance measurements and objectives with the agency's mission.

As part of its ISO certification, the SLSDC and the Canadian SLSMC actively reach out to the Seaway's commercial user community throughout the year to obtain feedback, discuss new programs, and examine ways of improving operations.

In addition, the program received high marks in terms of financial management. In FY 2011, the SLSDC received an unqualified opinion of its financial statements for FY 2010 with no material weaknesses or reportable conditions in November 2009. The FY 2010 audit marked the 47th consecutive unqualified opinion or clean audit report for the Corporation.

Achievements in the area of financial management, which have been a hallmark for the Corporation historically, are due to strong internal controls and management of financial activities and fiscal policies.

Why Do We Want/Need to Fund the Program at the Requested Level?

The requested level will provide the SLSDC with the financial and personnel resources necessary to perform the operational, maintenance, and administrative functions of the agency, including lock operations, vessel traffic control, physical asset maintenance, ballast water management, safety and environmental inspections, and trade development. The Corporation has made a concerted effort in recent years to reduce program expenses while ensuring that program activities are performed at or above performance targets and within budgetary limits.

SLSDC Agency Operations Program Historical Funding Levels SLSDC Fund (69x4089)	
Year	Program Funding
FY 2003 (Enacted)	\$14,874,000
FY 2004 (Enacted)	\$15,173,000
FY 2005 (Enacted)	\$16,607,000
FY 2006 (Enacted)	\$17,021,000
FY 2007 (Enacted)	\$17,123,000
FY 2008 (Enacted)	\$18,292,000
FY 2009 (Enacted)	\$16,207,000
FY 2010 (Enacted)	\$16,907,000
FY 2011 (CR Annualized)	\$17,524,000
FY 2012 (Request)	\$17,821,000

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Asset Renewal Program

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Executive Summary: Asset Renewal Program

What Is the Request and What Will We Get for the Funds?

The SLSDC is requesting \$17.1 million in FY 2012 for 23 infrastructure-related projects included in its Year Four estimates as part of its planned 10-year Asset Renewal Program (ARP) (see pages 54-59 for ARP projects and descriptions). The request represents a \$758,000 increase as compared to the ARP Year Two enacted level in FY 2010.

What Is the Program?

The ARP was initiated by the SLSDC in FY 2009 and focuses on improving aging U.S. Seaway infrastructure, conducting maintenance dredging, investing in new technologies, purchasing new equipment, and refurbishing old facilities. The start of the program in 2009 marked the first time in the Seaway's 50-year history that a coordinated effort to repair and modernize the U.S. Seaway infrastructure had taken place. Major ARP projects to be funded in FY 2012 include rehabilitation of the downstream miter gate at Snell Lock (\$4.4 million), replacement of concrete in the diffusers at Eisenhower Lock (\$3 million), demolition work related to the installation of an ice flushing system at Snell Lock (\$2 million), and upgrade of miter gate machinery at Eisenhower Lock (\$1.6 million).

Why Is This Particular Program Necessary?

The goal of the Seaway's ARP is to ensure the long-term structural integrity of the Seaway infrastructure. After 50 years of continuous operation in often harsh weather conditions, the Seaway infrastructure needs to be rehabilitated if its exceptional record of performance and reliability is to be maintained for the next half century. Although the Seaway has enjoyed a 99 percent reliability rate over its history, similar results in the future are uncertain with an aging infrastructure that has not been adequately renewed. In the competitive global market for commercial transportation, a system delay could force Seaway customers to seek alternative maritime routes and other transportation modes. An economic analysis concluded that the economic impact of a shutdown of either of the two U.S. locks would range from \$1.3-\$2.3 million per day, depending on the length of the delay.

How Do You Know the Program Works?

The SLSDC's ARP was initiated less than two years ago and the measured effectiveness of the program continues to be monitored. To ensure that the ARP is executed properly and to identify any concerns, the SLSDC formed a senior-level internal working group that meets every two weeks to review the status of ongoing projects and discuss ways to improve the overall management, execution, and reporting of the program. The ARP is resulting in not only modernized infrastructure and new equipment to ensure the long-term reliability of the St. Lawrence Seaway, but it is also having a positive and significant impact on the Upstate New York economy.

Why Do We Want/Need to Fund the Program at the Requested Level?

Through the program's first two years (FYs 2009-10), the Corporation has been able to maintain the original schedule and overall cost estimates. Any reductions from the current estimates will increase the program's overall costs while requiring additional years for the program to be completed.

Detailed Justification for Asset Renewal Program¹

What Do I Need to Know before Reading this Justification?

- The FY 2012 request for ARP is for the fourth year of funding of a planned 10-year program.
- Prior to the start of the ARP in FY 2009, only \$47 million in capital expenditures had been cumulatively invested in the U.S. Seaway locks since they opened in 1959.
- The Great Lakes Seaway System provides approximately \$3.6 billion in annual transportation cost savings compared to the next least expensive mode of transportation.

What is the Request and What Will We Get for the Funds?

FY 2012 Asset Renewal Program Budget Request
SLSDC Fund (69x4089)²
(In thousands of dollars)

Program Activity	FY 2010 Enacted	FY 2011 CR Annualized	FY 2012 Request	Difference (2012-2010)
Asset Renewal Program	\$16,317	\$15,700	\$17,075	\$758
Total	\$16,317	\$15,700	\$17,075	\$758

The \$17.1 million request to complete 23 ARP projects in FY 2012 will address various needs for the two U.S. Seaway locks, operational systems and networks, and Corporation facilities and equipment (*see pages 54-59 for ARP projects and descriptions*). This includes 17 multi-year projects that were funded in FYs 2009-2010 and/or requested in FY 2011. Although the majority of ARP work is completed by contractors, the SLSDC federal workforce is directly responsible for completing several of the maintenance-related projects as well as for completing much of the pre-contract work, including preparation of designs, specifications, and drawings.

Major ARP projects to be funded in FY 2012 include rehabilitation of the downstream miter gate at Snell Lock (\$4.4 million), replacement of concrete in the diffusers at Eisenhower Lock (\$3 million), demolition work related to the installation of an ice flushing system at Snell Lock (\$2 million), and upgrade of miter gate machinery at Eisenhower Lock (\$1.6 million).

Original ARP project estimates were developed by the SLSDC using four criteria, as applicable: (1) historical costs for similar work completed previously by the SLSDC, (2) consultation with the U.S. Army Corps of Engineers for similar work it completed at other U.S. locks, (3) consultation with the Canadian St. Lawrence Seaway Management Corporation (SLSMC) for similar work completed at the Canadian Seaway locks, and (4) utilization of data from RSMeans[®], which serves as a supplier of construction cost information. In several cases, estimates for FY 2012 have been revised based on either actual bids for similar ARP work and/or more complete designs. None of the ARP investments will result in increases to the authorized depth or width of the navigation channel or to the size of the two existing U.S. Seaway locks.

¹ Information on the SLSDC's ARP, including annual capital investment plans and semiannual reports to the Congress, can be found at <http://www.greatlakes-seaway.com/en/management/slsdc/asset/index.html>.

² The SLSDC Fund (69x4089) includes annual appropriations from the Harbor Maintenance Trust Fund (HMTF) and \$900,000 in estimated annual non-federal revenues.

SLSDC ARP activities directly support its core performance measure of system availability and the Department's Economic Competitiveness strategic goal and the performance measure related to the efficient movement of cargo.

What is the Program?

With the enactment of the FY 2009 Omnibus Appropriations Act, the SLSDC's ARP was initiated. The program focuses on improving aging Seaway infrastructure, conducting maintenance dredging, investing in new technologies, purchasing new equipment, and refurbishing old facilities. The program marks the first time in the Seaway's history that a coordinated effort to repair and modernize the U.S. Seaway infrastructure has taken place.

The Seaway is comprised of perpetual assets (locks, channels, an international bridge, highway tunnel, vessel traffic control system, and accompanying facilities and equipment), which requires periodic capital reinvestment in order to continue to operate safely, reliably, and efficiently. Yet, the U.S. Seaway infrastructure has reached the end of its original "design" life. Without sufficient investment in these perpetual assets, it will become increasingly difficult to maintain the future availability and reliability of the Seaway. The U.S. portion of the St. Lawrence Seaway was built in the late 1950s at an original cost of approximately \$130 million. Prior to the start of the ARP in FY 2009, only \$47 million in capital expenditures had been cumulatively invested in the U.S. Seaway locks since they opened in 1959.

The goal of the Seaway's ARP is to ensure the long-term structural integrity of the Seaway infrastructure. In addition to supporting the SLSDC's performance goals, the ARP also advances several key Department priorities, specifically, system performance and reliability and congestion mitigation. The Seaway infrastructure has been a model of performance and reliability – achieving a 99 percent or better reliability rate in four out of the last five navigation seasons. After 50 years of continuous operation in often harsh weather conditions, the Seaway infrastructure needs to be rehabilitated if its exceptional record of performance and reliability is to be maintained for the next half century.

An individual system delay or series of delays/shutdowns would seriously jeopardize the Great Lakes Seaway System's global competitiveness for the movement of agricultural and steel-related products. Although the Seaway has enjoyed a 99 percent reliability rate over its history, similar results in the future are uncertain with an aging infrastructure that has not been adequately renewed. In the competitive global market for commercial transportation, a system delay could force Seaway customers to seek alternative maritime routes and other transportation modes. An economic analysis concluded that the Great Lakes Seaway System provides approximately \$3.6 billion in annual transportation cost savings compared to the next least expensive mode of transportation.

The SLSDC's ARP focuses on improving aging Seaway infrastructure, conducting maintenance dredging, investing in new technologies, purchasing new equipment, and refurbishing aging facilities. The ARP is resulting in not only modernized infrastructure and new equipment to ensure the long-term reliability of the St. Lawrence Seaway, but it is also having a positive and significant impact on the Upstate New York economy. In fact, approximately three-quarters of the ARP funds obligated during the program's first two years, totaling nearly \$25 million, stayed in the regional economy.

The SLSDC's ARP also closely coordinates with infrastructure renewal work completed or planned by the Canadian SLSMC and supports the engineering considerations highlighted in the November 2007 binational *Great Lakes St. Lawrence Seaway Study*³. The study, which was completed with the support of the U.S. Army Corps of Engineers (USACE), Transport Canada, Environment Canada, U.S. Fish and Wildlife Service, and DOT's Office of the Secretary, SLSDC, and the Maritime Administration, evaluated the infrastructure needs of the U.S. and Canadian Great Lakes Seaway System and assessed the economic, environmental, and engineering implications of those needs pertaining to commercial navigation. As part of its ARP planning and implementation processes, the SLSDC is working closely with the SLSMC and USACE to leverage their expertise.

The Canadian Seaway locks along the St. Lawrence River are identical in age and design to those owned by the U.S. SLSDC. Several years ago, the Canadian Government began addressing its need for capital reinvestment in its Seaway assets. Many of the lock-related ARP improvements at the U.S. locks will parallel activities either completed, underway, or planned at the Canadian Seaway locks.

FY 2011 Base: The FY 2011 President's Budget request (base level) for the SLSDC's ARP was \$15.7 million.

Anticipated FY 2011 Accomplishments: ARP projects scheduled to be funded in FY 2011 are:

- Project No. 1: Snell Lock – Replace Fendering Downstream Guidewall Extension (\$10,000)
- Project No. 2: Eisenhower Lock – Rehabilitate Downstream Miter Gate (\$4,250,000)
- Project No. 4: Both Locks – Culvert Valve Machinery – Upgrade to Hydraulic Operation (\$4,500,000)
- Project No. 6: Seaway International Bridge – Perform Structural Rehabilitation and Corrosion Prevention (\$3,466,000)
- Project No. 7: Both Locks – Culvert Valves – Replace with Single Skin Valves (\$300,000)
- Project No. 8: Floating Navigational Aids – Replace (\$61,000)
- Project No. 9: Corporation Equipment – Replace Heavy and Light Equipment, Maintenance Vehicles and Shop Equipment (\$100,000)
- Project No. 10: Both Locks – Upgrade Power Supply Infrastructure from Moses-Saunders Dam (\$50,000)
- Project No. 11: Fixed Navigational Aids – Rehabilitate (\$100,000)
- Project No. 12: Corporation Equipment – Upgrade/Replace Floating Plant (\$505,000)
- Project No. 13: Corporation Facilities – Replace Roofs (\$130,000)

³ The Great Lakes St. Lawrence Seaway Study is available at www.glsls-study.com.

- Project No. 14: Corporation Facilities – Replace Paving and Drainage Infrastructure (\$750,000)
- Project No. 15: Eisenhower Lock Highway Tunnel – Rehabilitate (\$650,000)
- Project No. 16: Seaway System – Upgrade GPS/AIS/TMS Technologies (\$50,000)
- Project No. 19: Corporation Facilities – Upgrade Electrical Distribution Equipment (\$150,000)
- Project No. 20: Both Locks – Upgrade Lock Status/Controls (\$75,000)
- Project No. 32: Snug Harbor – Rehabilitate Spare Gate Storage and Assembly Area (\$253,000)
- Project No. 34: Both Locks – Improve Ice Control (\$100,000)
- Project No. 35: Vessel Mooring Cells – Rehabilitate and Extend (\$100,000)
- Project No. 51: Corporation Facilities – Upgrade Physical Security to Meet HSPD-12 Requirements (\$100,000)

During FY 2011, the SLSDC’s Office of Engineering and Maintenance will complete any engineering specifications and plans, permitting and environmental studies (*if applicable*), and contractual obligations for all ARP projects proposed for funding in FY 2011. The Corporation’s Office of Finance also directly supports this initiative.

In addition, during the first half of FY 2011, work on several of the larger lock-related ARP projects funded in FY 2009 will be completed. This timeframe is due to the 10-12 month lead time for delivery and the need to install this machinery during the non-navigation winter months when the Seaway is closed. These projects include the hydraulic upgrade of culvert valve machinery and the rehabilitation of an upstream miter gate. Work is also expected to be completed for those FY 2010 ARP projects that do not require the long lead-times for delivery and installation.

The completion of ARP projects will extend the life of the U.S. Seaway infrastructure and reduce the risk of system delays to commercial navigation caused by lock equipment malfunction. In addition, several ARP projects will involve the implementation of new and improved technologies for the operation of the Seaway infrastructure, which will result in minimized maintenance needs.

Why Is This Particular Program Necessary?

The goal of the Seaway’s ARP is to ensure the long-term structural integrity of the Seaway infrastructure. After more than 50 years of continuous operation in often harsh weather conditions, the Seaway infrastructure needs to be rehabilitated if its exceptional record of performance and reliability is to be maintained for the next half century.

The infrastructure and engineering recommendations of the 2007 *Great Lakes St. Lawrence Seaway Study* were the genesis of the ARP's creation. During its work on the study, the SLSDC measured its infrastructure assets using a USACE-based lock criticality index to better identify and prioritize maintenance and asset renewal needs. The results of the index were used to develop the ARP.

Unlike many of the other lock-based waterway systems in the world, which have twinned locks to ensure continued operations in the event of a lock failure, the St. Lawrence Seaway is a single-lock system. A delay or shutdown at any one of the 15 U.S. or Canadian Seaway locks would cause system-wide delays. In 1985, a lock failure at the Canadian Welland Canal caused 53 commercial vessels to be trapped in the Seaway System for 24 days at a cost to the shippers at that time of more than \$24 million (\$49 million in 2010 dollars).

There is a delicate balance between preserving the existing locks, channels, and associated infrastructure, and ensuring their safety and reliability at all times. There is a critical point where regular maintenance and repairs are no longer sufficient and decisions on major rehabilitation or replacement of structures is required. The longer decisions are extended, the higher the risk to safety of the locks and other Seaway infrastructure and the higher the costs.

In addition to the aging infrastructure needs and economic benefits of this program, the international agreements entered into by the United States and Canada in the 1950s necessitate that the two countries jointly operate and maintain the St. Lawrence Seaway and its physical assets. Over the past decade, the Canadian government has begun to address the asset renewal needs of its 13 Seaway locks, eight of which are more than 75 years old (located at the Welland Canal). The SLSDC's ARP serves as our nation's commitment to the long-standing agreement to jointly operate and maintain the binational waterway for commerce.

How Do You Know the Program Works?

In 2008, the SLSDC created the Seaway ARP Internal Working Group, made up of senior managers in engineering, procurement, financial management, budget, counsel, and policy, to ensure that the multi-year program is executed properly and efficiently and to identify any possible concerns early in the process. The group convenes every two weeks to review the status of ARP projects and to collectively discuss ways to improve the overall management, execution, and reporting of the program on an ongoing basis.

In May 2010, the Government Accountability Office (GAO) completed its review of the SLSDC's ARP cost estimating process⁴. GAO's recommendation was for the SLSDC to develop a cost-estimating process that follows best practices to better ensure that its estimates are comprehensive, well documented, accurate, and credible. The SLSDC agreed to consider the report's recommendation and has already met with GAO cost estimating officials to implement new cost estimating procedures.

⁴ *St. Lawrence Seaway: Estimates for the Asset Renewal Program Will Change and Implementing Best Practices May Improve the Estimates' Reliability*, May 2010, www.gao.gov/products/GAO-10-541R.

Why Do We Want/Need to Fund the Program at the Requested Level?

Nearly every ARP project is a multi-year initiative; only 9 of the 52 current ARP projects plan are standalone, single-year projects. Through the program's first two years (FYs 2009-10), the Corporation has been able to maintain the original schedule and overall cost estimates. Any reductions from the current estimates will increase the program's overall costs while requiring additional years for the program to be completed.

SLSDC Asset Renewal Program Historical Funding Levels and Outyear Estimates SLSDC Fund (69x4089)	
Year	Program Funding
FY 2009 (Enacted)	\$17,535,000
FY 2009 (Actual)	\$17,587,028
FY 2010 (Enacted)	\$16,317,000
FY 2010 (Actual)	\$16,339,760
FY 2011 (President's Budget)	\$15,700,000
FY 2012 (Requested)	\$19,207,000
FY 2013 (Current Outyear Estimate)	\$19,993,000
FY 2014 (Current Outyear Estimate)	\$25,605,000
FY 2015 (Current Outyear Estimate)	\$18,088,000
FY 2016 (Current Outyear Estimate)	\$19,400,000
FY 2017 (Current Outyear Estimate)	\$15,741,000
FY 2018 (Current Outyear Estimate)	\$20,680,000

FY 2012 U.S. Seaway Asset Renewal Program (ARP) Projects

ARP Project Number	Project Name	FY 2012 Request
2	Snell Lock – Rehabilitate Downstream Miter Gate	\$ 4,380,000
5	Both Locks – Rehabilitate Winter Maintenance Lock Covers	258,000
7	Both Locks – Culvert Valves – Replace with Single Skin Valves	405,000
8	Floating Navigational Aids – Replace	61,000
9	Corporation Equipment – Replace Heavy and Light Equipment, Maintenance Vehicles and Shop Equipment	255,000
10	Both Locks – Upgrade Power Supply Infrastructure from Moses-Saunders Dam to Both Locks and Adjacent Facilities	20,000
11	Fixed Navigational Aids – Rehabilitate	100,000
12	Corporation Equipment – Upgrade/Replace Floating Plant	1,524,000
13	Corporation Facilities – Replace Roofs	230,000
19	Corporation Facilities – Upgrade Electrical Distribution Equipment	400,000
24	Both Locks – Structural Repair – Grout Leaks in Galleries and Recesses	203,000
26	Corporation Facilities – Upgrade Storage for Lock Spare Parts and Equipment	203,000
27	Corporation Facilities – Replace Windows and Doors and Repair Building Facades	203,000
32	Snug Harbor – Rehabilitate Spare Gate Storage and Assembly Area	254,000
33	Both Locks – Upgrade Drainage Infrastructure in Galleries and Recesses	152,000
34	Both Locks – Improve Ice Control	228,000
36	Eisenhower Lock – Diffusers – Replace	3,045,000
38	Both Locks – Upgrade/Replace Emergency Generators	508,000
39	Both Locks – Dewatering Pumps – Upgrade Outdated Equipment	203,000
41	Snell Lock – Install Ice Flushing System	2,000,000
42	Both Locks – Miter Gates – Structural Rehabilitation	761,000
43	Eisenhower Lock – Miter Gate Machinery – Replace	1,632,000
51	Corporation Facilities – Upgrade Physical Security to Meet HSPD-12 Requirements	50,000
ARP Totals (23 projects):		\$17,075,000

The SLSDC's ARP includes capitalized projects and equipment as well as non-capitalized, maintenance-related projects.

Capital projects and equipment are defined as those of a durable nature that may be expected to have a period of service of more than a year without material impairment of its physical conditioning. This includes equipment, improvements and modifications to existing structures.

Non-capital/maintenance projects include those that do not materially add to the value of the property nor appreciably prolong the life of the infrastructure but merely keeps it in an ordinarily efficient operating condition. Expenditures for these maintenance projects are recognized as operating costs.

Dollar amounts for ARP projects are "project feasibility" estimates that can vary by an industry-recognized 20-30 percent. Funding for each year of the ARP is constrained to annual funding targets as estimated and approved by the Office of Management and Budget (OMB). Project estimates and schedules may fluctuate at various points in the lifespan of the ARP and will be revised as needed.

ARP Project No. 2: Snell Lock – Rehabilitate Downstream Miter Gate (Capital Project) (\$4,380,000) – This project is to completely rehabilitate the miter gate at the downstream end of Snell Lock. It includes replacing worn and/or damaged components including the miter and quoin contact blocks, pintles, and diagonals to insure proper functioning of the miter gates. The FY 2011 estimate exceeds original baseline estimates due to actual costs associated with rehabilitating the upstream miter gates in FYs 2009 and 2010. *(Project funds requested for FY 2011)*

ARP Project No. 5: Both Locks – Rehabilitate Winter Maintenance Lock Covers (Capital Project) (\$258,000) – This project is for rehabilitating the roof modules used to cover Eisenhower and Snell Locks when major winter maintenance projects are planned. These covers are over 40 years old and require rehabilitation. By installing the new access panels, SLSDC staff will no longer be required to remove entire roof cover modules to access work areas. *(Project funds obligated in FY 2009 and FY 2010)*

ARP Project No. 7: Both Locks – Culvert Valves – Replace with Single Skin Valves (Capital Project) (\$405,000) – This project is for replacing the double skin culvert valves used for filling and emptying the locks with single skin valves. Cracking of major structural members has occurred and the structural members are not accessible for inspection, blast cleaning, and painting given the double-skin construction. The culvert valves are more than 50 years old and are corroding from the inside. The new single skin valves will provide access to the structural members for inspection and maintenance. The failure of a culvert valve would cause a delay to shipping while the damaged valve was removed and replaced. Dependant on the type of failure, other lock operating components/equipment could be damaged causing the lock to be out of service for a longer time. *(Project funds obligated in FY 2010 and requested for FY 2011)*

ARP Project No. 8: Floating Navigational Aids – Upgrade/Replace (Capital Project) (\$61,000) – This is an ongoing program to replace floating navigational aids/buoys and winter markers that have been damaged over the years, on an as required basis. The Corporation is responsible for approximately 100 buoys and 50 winter markers. *(Project funds obligated in FY 2009 and FY 2010, and requested for FY 2011)*

ARP Project No. 9: Corporation Equipment – Replace Heavy and Light Equipment, Maintenance Vehicles and Shop Equipment (Capital Equipment) (\$255,000) – This is an ongoing program to replace heavy and light equipment, vehicles and shop equipment as it becomes worn out and unserviceable. Heavy and light equipment includes such items as a crane, dump truck, snowplow, backhoe, grader, front end loader and assorted shop equipment. Equipment and vehicles are inspected regularly and their replacement is prioritized based on the results of those inspections. *(Project funds obligated in FY 2009 and FY 2010, and requested for FY 2011)*

ARP Project No. 10: Both Locks – Upgrade Power Supply Infrastructure from Moses-Saunders Dam to Both Locks and Adjacent Facilities (Non-Capital Maintenance Project) (\$20,000) – This project is for upgrading the infrastructure that supplies power to Eisenhower and Snell Locks and to the Corporation's Maintenance Facility. The power is furnished directly from the Moses-Saunders Power Dam over infrastructure that is nearly 50 years old. The loss of power from the Moses-Saunders Power Dam makes it necessary to use diesel generators, which are expensive to operate, to continue operation of Eisenhower and Snell Locks and the Maintenance Facility. *(Project funds obligated in FY 2009 and FY 2010, and requested for FY 2011)*

ARP Project No. 11: Fixed Navigational Aids – Rehabilitate (Capital Project) (\$100,000) – This project is for rehabilitating fixed navigational aids in the Seaway. Many of the structures are more than 50 years old and are in need of more than routine repairs. Many of these structures have concrete bases which are partially underwater and have experienced varying degrees of damage from water, ice, and freeze-thaw cycles. The inspection of these structures has been completed by divers. Any repairs to the foundations will also require divers as well as the use of a tug and barge with crane to complete. Failure of a fixed aid would likely make replacement necessary at a cost significantly higher than repairing the existing structure. *(Project funds obligated in FY 2010 and requested for FY 2011)*

ARP Project No. 12: Corporation Equipment – Upgrade/Replace Floating Plant (Capital Project) (\$1,524,000) – This is an ongoing program to rehabilitate and/or replace the Corporation's floating plant which is used for maintaining the locks and navigation channels. This multiyear project also includes replacing the tug; upgrading the buoy tender barge; purchasing a smaller tug for operations where the capabilities of the larger tug are not efficient, a small boat for emergency response and a small scow for transporting dredged spoil from emergency/spot dredging; and for rehabilitating the crane barge/gatelifter which would have to be used if a miter gate was damaged and had to be replaced. *(Project funds obligated in FY 2009 and FY 2010, and requested for FY 2011)*

ARP Project No. 13: Corporation Facilities – Replace Roofs (Capital Project) (\$230,000) – This project is for replacing the roofs on the Corporation's various buildings and facilities in Massena, N.Y., as required. Most of the roofs are currently insulated ethylene propylene diene monomer (EPDM) roofs with a service life of 10-15 years and have reached the end of that time frame. *(Project funds obligated in FY 2009 and requested for FY 2011)*

ARP Project No. 19: Corporation Facilities – Upgrade Electrical Distribution Equipment (Capital Project) (\$400,000) – This project is for upgrading electrical distribution equipment at both Eisenhower and Snell Locks and at the Maintenance Facility to insure continued reliability. The majority of this equipment is more than 50 years old. *(Project funds obligated in FY 2010 and requested for FY 2011)*

ARP Project No. 24: Both Locks – Structural Repair – Grout Leaks in Galleries and Recesses (Non-Capital Maintenance Project) (\$203,000) – This project is for grouting cracks/joints in the concrete in the galleries and recesses at both Eisenhower and Snell Locks to reduce the infiltration of water into these areas. Water leaking into these areas accelerates the corrosion of the components/machinery and makes it difficult to perform maintenance on these items. *(Project funds obligated in FY 2009)*

ARP Project No. 26: Corporation Facilities – Upgrade Storage for Lock Spare Parts and Equipment (Capital Project) (\$203,000) – This project is for constructing shelters/buildings for storage of lock spare parts and equipment to prevent them from corroding. Many of these items are currently not stored under cover and/or are stored in old storage sheds that are in need of repair or replacement. *(Project funds obligated in FY 2010)*

ARP Project No. 27: Corporation Facilities – Replace Windows and Doors and Repair Building Facades (Non-Capital Maintenance Project) (\$230,000) – This project is for replacing corroded/worn windows and doors with more energy efficient units and for repairing the brick and stone facades which are in need of repair. *(Project funds obligated in FY 2010)*

ARP Project No. 32: Snug Harbor – Rehabilitate Spare Gate Storage and Assembly Area (Non-Capital Maintenance Project) (\$254,000) – This project is for rehabilitating the spare miter gate storage and assembly area at Snug Harbor. The work will include repair of the spare gate assembly pads and their supporting piles as well as blast cleaning and painting of the spare miter gates and gate assembly towers. *(Project funds obligated in FY 2010 and requested for FY 2011)*

ARP Project No. 33: Both Locks – Upgrade Drainage Infrastructure in Galleries and Recesses (Capital Project) (\$152,000) – This project is to open existing drains or to drill new ones in the galleries and machinery recesses at both Eisenhower and Snell Locks. The drains are being filled up with concrete leachate products which slow and/or stop the drains and causes flooding of the galleries and machinery recesses.

ARP Project No. 34: Both Locks – Improve Ice Control (Capital Project) (\$228,000) – This project is to improve the methods/equipment used to control ice in and around Eisenhower and Snell Locks during the opening and closing of each navigation season. Air curtains and bubblers are currently used to minimize the ice entering a lock chamber and to move it away from the miter gates. Backhoes are used for removing ice from the lock walls, which reduces the width available for transiting vessels. Improvements to existing systems/equipment and utilizing new technologies would make operations during icy conditions more efficient and would minimize damages to the lock components and transiting vessels. *(Project funds obligated in FY 2010 and requested for FY 2011)*

ARP Project No. 36: Eisenhower Lock – Diffusers – Replace (Capital Project) (\$3,045,000) – This project is to replace deteriorated/damaged concrete in the diffusers at Eisenhower Lock. This includes poor quality concrete used during original construction of the locks as well as concrete that was damaged by freeze-thaw cycles. The diffusers are the outlet structures used to dampen the flow of water when the lock is emptied.

ARP Project No. 38: Both Locks – Upgrade/Replace Emergency Generators (Capital Project) (\$508,000) – This project is for replacing the emergency generators at both Eisenhower and Snell Locks and for installing a generator removed from the locks at the Maintenance Facility. The generators at the locks are over 20 years old and cannot carry the total load. Also, installing one of these units at the Maintenance Facility with an automatic transfer switch insures that water lines will not freeze and break in the event of a power outage, enabling maintenance activities to continue.

ARP Project No. 39: Both Locks – Dewatering Pumps – Upgrade Outdated Equipment (Capital Project) (\$203,000) – This project is for replacing the pumps used for dewatering both Eisenhower and Snell Locks for maintenance of their underwater components. These pumps are over 50 years old and parts for these units are no longer available.

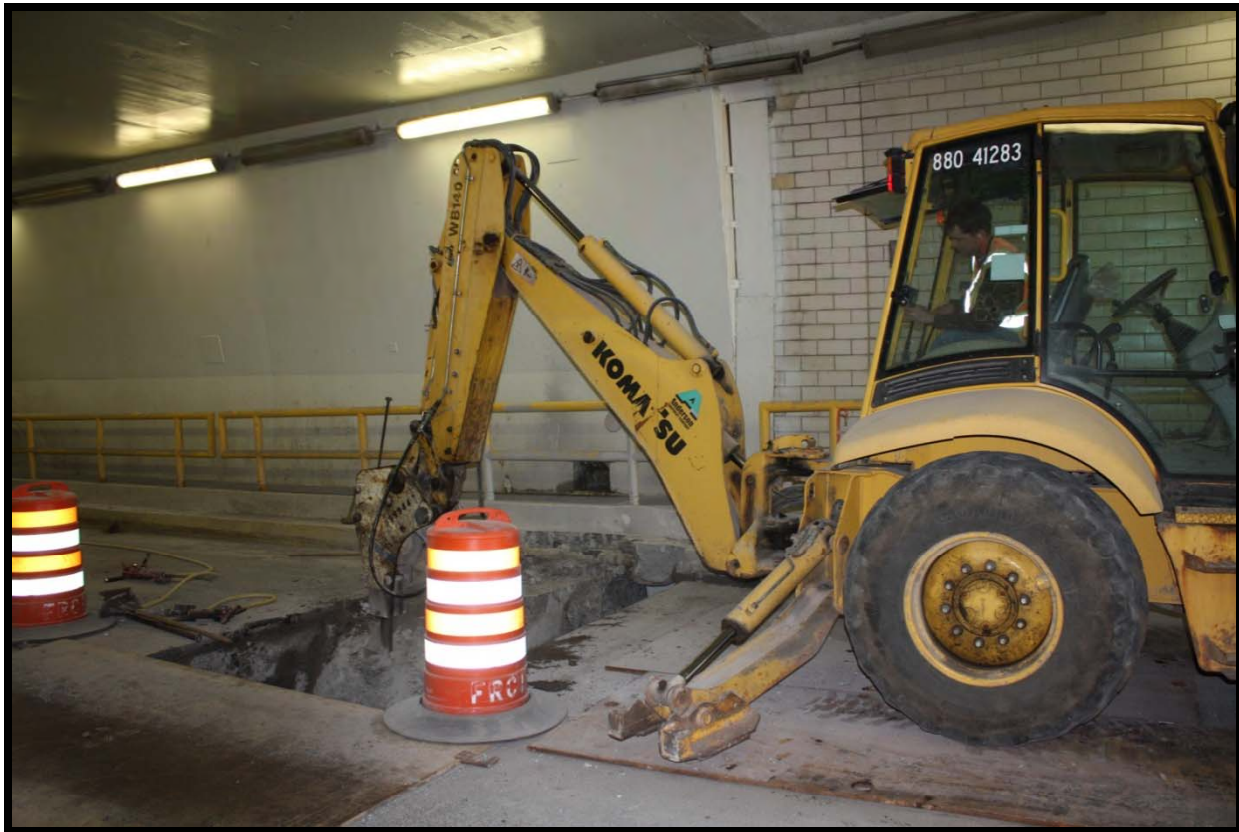
ARP Project No. 41: Snell Lock – Install Ice Flushing System (Capital Project) (\$2,000,000) – This multi-year project will result in the installation of an ice flushing system at Snell Lock similar to the one already in operation at Eisenhower Lock. The project is critical to the safe and efficient operation of Snell Lock during the waterway's opening and closing periods when ice is present. With today's larger ships transiting the Seaway, the lock must be flushed almost completely free of ice before a vessel can be allowed to enter the locks because of the limited space between the vessels and the lock walls. Currently, ice is flushed from the Snell Lock chamber by utilizing the lock filling valves, exposing them to very high water flow/velocity for long periods of time. This causes the valves to vibrate and, in some instances, incur damage. FY 2012 funds will be used primarily for concrete demolition work.

ARP Project No. 42: Both Locks – Miter Gates – Structural Rehabilitation (Capital Project) (\$761,000) – This project is to blast clean and paint the downstream miter gate at Eisenhower Lock to prevent further corrosion of this structure. It was last cleaned and painted almost 30 years ago.

ARP Project No. 43: Eisenhower Lock – Miter Gate Machinery –Replace (Capital Project) (\$1,632,000) – This project is for replacing the operating machinery for the miter gates at Eisenhower Lock. This machinery is more than 50 years old and needs to be upgraded to insure its continued reliability. The upgrade will include new hydraulic operating equipment to match the improvements made at the Canadian Seaway locks and the other locks in the United States.

ARP Project No. 51: Corporation Facilities – Upgrade Physical Security to Meet HSPD-12 Requirements (Capital Project) (\$50,000) – This project is for procuring the Personal Identity Verification (PIV) cards required by the Department as well as the procurement and installation of necessary PIV card readers and other required infrastructure to meet HSPD-12 requirements. *(Project funds obligated in FY 2010 and requested for FY 2011)*

U.S. St. Lawrence Seaway Asset Renewal Program Capital Investment Plan *FY 2012-2016*



**Saint Lawrence Seaway
Development Corporation**



The U.S. Saint Lawrence Seaway Development Corporation (SLSDC), a wholly owned government corporation and an Operating Administration of U.S. Department of Transportation (DOT), is responsible for the operations and maintenance of the U.S. portion of the St. Lawrence Seaway between Montreal and Lake Erie. This responsibility includes maintaining navigation channels and aids, managing vessel traffic control in areas of the St. Lawrence River and Lake Ontario, and maintaining and operating the two U.S. Seaway locks located in Massena, N.Y.

The SLSDC coordinates its activities with its Canadian counterpart, the St. Lawrence Seaway Management Corporation, to ensure that the U.S. portion of the St. Lawrence Seaway, including the two U.S. locks, are available for commercial transit 99 percent of the time during the navigation season (usually late March to late December of each year). Additionally, the SLSDC performs trade development activities designed to enhance the utilization of the Great Lakes St. Lawrence Seaway System.

For more information on the SLSDC, visit <http://www.greatlakes-seaway.com>.





**Saint Lawrence Seaway Development Corporation
U.S. Seaway Asset Renewal Program
Capital Investment Plan
FY 2012-2016**

Background/Summary

Operated and maintained by the U.S. Saint Lawrence Seaway Development Corporation (SLSDC) and the Canadian St. Lawrence Seaway Management Corporation (SLSMC), the St. Lawrence Seaway is a unique binational transportation asset, which directly serves an eight-state, two-province region that accounts for 29 percent of the U.S. gross domestic product (GDP), 60 percent of the Canadian GDP, 55 percent of North America’s manufacturing and services industries, and is home to 110 million people or one quarter of the continent’s population.

Over those first 50 years, more than 2.5 billion metric tons of cargo has moved through the 15-lock waterway valued at more than \$375 billion. Additionally, maritime commerce on the Great Lakes Seaway System provides shippers with approximately \$3.6 billion in annual transportation cost savings compared to the next least expensive mode of transportation. The waterway also produces significant economic benefits to the Great Lakes region. In fact, maritime commerce on the Great Lakes Seaway System impacts 150,000 jobs, \$12 million per day in wages, and \$9 million per day in business revenues by firms engaged in trade in the U.S. alone.

To continue providing these economic benefits to both nations and serving as a viable option for mitigating highway and rail congestion in the region, the binational St. Lawrence Seaway must remain available, efficient, and competitive for commercial transportation. To achieve these goals, the Seaway’s infrastructure, which has reached the end of its original “design” life, must be renewed through a large-scale capital reinvestment on both sides of the border.



Aerial View of SLSDC’s U.S. Eisenhower Lock in Massena, N.Y.

Starting in 2009, the SLSDC initiated its multi-year U.S. Seaway Asset Renewal Program (ARP) for its navigation infrastructure and facilities. The ARP projects and equipment included in the ARP Capital Investment Plan (CIP) address various needs for the two U.S. Seaway locks, the Seaway International Bridge, maintenance dredging, operational systems, and Corporation facilities and equipment.

In FY 2009, the SLSDC obligated \$17.6 million for 21 Year One ARP projects. These projects included maintenance dredging in the U.S. portion of the navigation channel, lock culvert valve machinery upgrade to hydraulic operation, structural rehabilitation and corrosion prevention work on the Seaway International Bridge, and upstream miter gate rehabilitation at Eisenhower Lock, as well as various other structural and equipment repairs and/or replacement.

In FY 2010, the second year of the ARP, the SLSDC obligated \$16.3 million for 25 ARP projects. Projects funded in FY 2010 included the continuation of many Year One projects, plus culvert valve replacements, upstream miter gate rehabilitation at Snell Lock, and lock control technology improvements. A listing of all FY 2009 and 2010 ARP obligations is included on page 17. Throughout FY 2010 the Corporation also managed the successful initiation and/or completion of a number of FY 2009-financed ARP projects. The first large-scale lock-related projects of the ARP, which were funded in both FYs 2009 and 2010, were started during the Seaway's winter non-navigation period, beginning in late December 2010.

The start of the program in 2009 marked the first time in the Seaway's 50-year history that a coordinated effort to repair and modernize the U.S. Seaway infrastructure had taken place. None of the ARP investments will result in increases to the authorized depth or width of the navigation channel or to the size of the two existing U.S. locks.

The ARP is resulting in not only modernized infrastructure and new equipment to ensure the long-term reliability of the St. Lawrence Seaway, but it is also having a positive and significant impact on the Upstate New York economy. In fact, approximately three-quarters of the ARP funds obligated during the program's first two years, totaling nearly \$25 million, stayed in the regional economy.

For the FY 2012-2016 time frame, the Seaway ARP/CIP includes 39 projects and equipment estimated at \$100.2 million with total funding for each year of the plan constrained to funding targets for those years as estimated and approved by the Office of Management and Budget (OMB). Projects and estimates included in the current ARP five-year plan are detailed on pages 18-19. It is important to note that dollar amounts for ARP projects are "project feasibility" estimates that can vary by an industry-recognized 20-30 percent. Project estimates and schedules may fluctuate at various points in the lifespan of the ARP and will be revised as needed and on a continuing basis throughout the length of the ARP.

Original ARP baseline project estimates were developed by the SLSDC using four criteria, as applicable: (1) historical costs for similar work completed previously by the SLSDC, (2) consultation with the U.S. Army Corps of Engineers for similar work it completed at other U.S. locks, (3) consultation with the SLSMC for similar work it completed at the Canadian Seaway locks, and (4) utilization of data from RSMMeans[®], which serves as North America's leading supplier of construction cost information. In several cases, estimates for FYs 2012-2016 have been revised for the latest five-year plan based on either actual bids for similar ARP work and/or more complete designs.

Although the majority of ARP work is completed by contractors, the SLSDC federal workforce is directly responsible for completing several of the maintenance-related projects as well as for completing much of the pre-contract work, including preparation of designs, specifications, and drawings.

As part of its policy priority of “System Reliability and Availability”, the SLSDC developed its ARP to address the long-term asset renewal needs of the U.S. Seaway infrastructure. A perpetual infrastructure asset, such as a lock, needs a capital investment equivalent to its original cost over its design life, which is typically 50 years, in order to sustain itself. The U.S. portion of the St. Lawrence Seaway was built in the late 1950s at an original cost of \$130 million. Prior to the start of the ARP in FY 2009, only \$47 million in capital expenditures had been cumulatively invested in the U.S. Seaway locks since they opened in 1959.

Without sufficient investment in the SLSDC’s perpetual assets, the future availability and reliability of the U.S. section of the St. Lawrence Seaway would be in jeopardy. The Seaway has enjoyed a 99 percent reliability rate over its history, but similar results in the future are uncertain with an aging infrastructure quickly approaching the end of its original design life. Adequate capital reinvestment in the Seaway infrastructure is critical to maintaining its exceptional reliability record.

Unlike many of the other lock-based waterway systems in the world, which have twinned locks to ensure continued operations in the event of a lock failure, the St. Lawrence Seaway is a single-lock system. A delay or shutdown at any one of the 15 U.S. or Canadian Seaway locks would cause system-wide delays. In 1985, a lock failure at the Canadian Welland Canal caused 53 commercial vessels to be trapped in the Seaway System for 24 days at a cost to the shippers at that time of more than \$24 million (\$49 million in 2010 dollars).

The Seaway ARP supports the engineering considerations highlighted in the November 2007 binational *Great Lakes St. Lawrence Seaway Study*. The study (*see page 5 for background*) evaluated the infrastructure needs of the U.S. and Canadian Great Lakes Seaway System and assessed the economic, environmental, and engineering implications of those needs pertaining to commercial navigation. During its work on the study, the SLSDC measured its infrastructure assets using a Corps-based lock criticality index to better identify and prioritize maintenance and replacement needs. The results of the initial index were used to develop the ARP (*see page 20*).

Over the past decade, the Canadian government has started to address the asset renewal needs of its 13 Seaway locks, eight of which are more than 75 years old (located at the Welland Canal). Many of the lock-related ARP improvements will parallel activities underway at the Canadian Seaway locks.

Seaway ARP Internal Working Group

In 2008, the SLSDC created the Seaway ARP Internal Working Group, made up of senior managers in engineering, procurement, financial management, budget, counsel, and policy, to ensure that the multi-year program is executed properly and efficiently and to identify any possible concerns throughout the process. The group convenes every two weeks to review the status of ARP projects and to collectively discuss ways to improve the overall management, execution, and reporting of the program on an ongoing basis.

GAO Program Review

In May 2010, the Government Accountability Office (GAO) completed its review of the SLSDC's ARP cost estimating process¹. GAO's recommendation was for the SLSDC to develop a cost-estimating process that follows best practices to better ensure that its estimates are comprehensive, well documented, accurate, and credible. The SLSDC agreed to consider the report's recommendation and has already met with GAO cost estimating officials to implement new cost estimating procedures.

The review was in response to a congressional mandate contained in P.L. 111-8, Omnibus Appropriations Act, 2009, and focused on three areas: (1) how the SLSDC developed and estimated costs of projects in its ARP; (2) to what extent the ARP covers all current or expected recapitalization needs; and (3) how effectively the SLSDC coordinated with its Canadian counterpart in developing a comprehensive and coordinated asset renewal program for all Seaway facilities.

SLSDC Strategic and Performance Goals

The projects included in the SLSDC's ARP/CIP specifically target the Corporation's core strategic goals related to "Safety, Security and the Environment" and "Reliability and Availability" as well as the U.S. Department of Transportation's strategic goals of "Economic Competitiveness".

The SLSDC's principal performance measure of U.S. St. Lawrence Seaway System Availability is highlighted in the U.S. Department of Transportation's annual Performance and Accountability Report. The annual goal for providing availability of the U.S. portion of the St. Lawrence Seaway, including the two U.S. Seaway locks, to its commercial users is 99 percent.

In measuring system downtime, the SLSDC includes minutes/hours of delay for weather, including visibility; vessel incidents; insufficient water levels or high velocities; and lock equipment malfunction.

During FY 2010, the availability of the U.S. sectors of the Seaway, including the two U.S. locks maintained and operated by the SLSDC, was 99.8 percent. The primary causes for delays were weather and vessel incidents. Of the remaining factors that cause system non-availability, the SLSDC has the most control over the proper functioning of its lock equipment. During FY 2010, lock-related delays to commercial shipping totaled 3 hours, 49 minutes.

Without sufficient investment in the SLSDC's perpetual assets, the future availability and reliability of the U.S. section of the St. Lawrence Seaway is in jeopardy. Although the Seaway has enjoyed a 99 percent reliability rate over its history, similar results in the future are uncertain with an aging infrastructure that has not been adequately renewed.

¹ *St. Lawrence Seaway: Estimates for the Asset Renewal Program Will Change and Implementing Best Practices May Improve the Estimates' Reliability*, May 2010, www.gao.gov/products/GAO-10-541R.

Binational Great Lakes St. Lawrence Seaway Study Background Information

On November 26, 2007, the U.S. and Canadian governments released its binational Great Lakes St. Lawrence Seaway Study (Study) – a joint project to assess the ongoing maintenance and long-term capital requirements of the commercial maritime navigation infrastructure of the Great Lakes St. Lawrence Seaway System. In particular, this infrastructure includes the 15 U.S. and Canadian-operated locks of the St. Lawrence Seaway as well as the Soo locks operated and maintained by the U.S. Army Corps of Engineers.

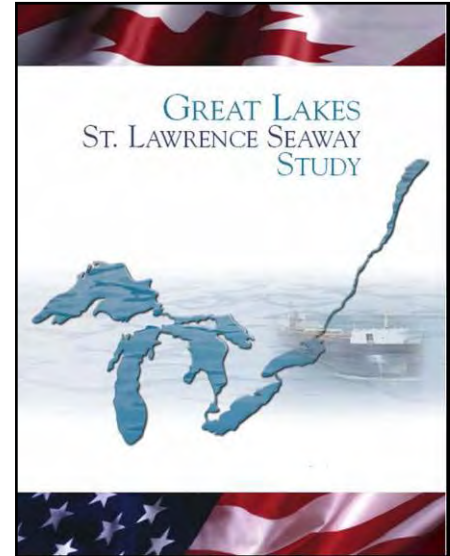
The U.S. Department of Transportation partnered with the Corps for the seven-year duration of the study project and with Transport Canada for the last five years. The Study report consists of eight chapters totaling over 100 pages as well as lengthy appendices. The Study is available to the public electronically on the Study's website (www.glsls-study.com).

Seven Canadian and U.S. departments and agencies were involved in the multi-year study: Transport Canada, U.S. Department of Transportation, U.S. Army Corps of Engineers, SLSMC, SLSDC, Environment Canada, and the U.S. Fish and Wildlife Service. Their representatives formed a Steering Committee responsible for the Study's overall strategic direction. Study tasks and analysis were overseen by a Management Team consisting of one representative from Transport Canada and one from the Corps.

The three objectives of the Study were to:

- Evaluate the condition and reliability of the Great Lakes Seaway System, including the relative benefits and costs of continuing to maintain the existing transportation infrastructure on which it depends;
- Assess the engineering, economic, and environmental factors associated with current and future needs of the Great Lakes St. Lawrence Seaway System; and
- Identify factors and trends affecting the domestic and international marine transportation industries serving the System, including evolving intermodal linkages and transportation technologies.

The final report included a detailed engineering analysis of the System's current infrastructure. This infrastructure is divided into four groups: the USACE's Soo locks in Sault Ste. Marie, Mich.; the eight Canadian locks at the Welland Canal that allow marine circumvention of Niagara Falls; the five Canadian locks in the St. Lawrence River; and the two U.S. St. Lawrence River locks owned and operated by the SLSDC.



The Study also includes an economic analysis of the costs and benefits associated with maintaining the System's infrastructure at its current state of reliability. The final report identifies factors and trends affecting the domestic and international marine transportation industries serving the System. In addition, with the active participation and the endorsement of Environment Canada and the U.S. Fish and Wildlife Service, the Study is a unique commercial navigation assessment in that it incorporates an environmental analysis.

Among the Study's important findings are:

- The Great Lakes St. Lawrence Seaway System continues to play a decisive role in the economic life of North America. An economic analysis concluded that the Great Lakes Seaway System provides approximately \$3.6 billion in annual transportation cost savings compared to the next least expensive mode of transportation. These savings are especially felt in strategic sectors such as steelmaking and energy, the competitiveness of which is vital to the health of the North American economy.
- The System also offers shippers considerable spare capacity. This is becoming increasingly significant as highways and rail lines in the region experience growing congestion. The Great Lakes Seaway System can play an important role in relieving some of these pressures by offering complementary transportation routes through less busy ports and by moving goods directly across lakes rather than around them.
- The commercial maritime lock infrastructure of the System has reached or exceeded its original design life and will require capital investment in order for the System to remain reliable and competitive.

The Study provided specific considerations and conclusions:

- The System has the potential to alleviate congestion on the road and rail transportation networks as well as at border crossings in the Great Lakes basin and St. Lawrence River region.
- A stronger focus on short sea shipping would allow the System to be more closely integrated with the road and rail transportation systems, while providing shippers with a cost-effective, timely and reliable means to transport goods.
- The existing infrastructure of the Great Lakes St. Lawrence Seaway System must be maintained in good operating condition in order to ensure the continued safety, efficiency, reliability and competitiveness of the system.
- The long-term health and success of the System will depend in part on its sustainability, including the further reduction of negative ecological impacts caused by commercial navigation.

**SLSDC U.S. SEAWAY ASSET RENEWAL PROGRAM
CAPITAL INVESTMENT PLAN
FYs 2012-2016**

**SUMMARY OF CAPITAL AND MAINTENANCE PROJECTS
TOTALING \$100,161,000**

The SLSDC's ARP includes capitalized projects and equipment as well as non-capitalized, maintenance-related projects.

Capital projects and equipment are defined as those of a durable nature that may be expected to have a period of service of more than a year without material impairment of its physical conditioning and includes equipment, improvements and modifications to existing structures.

Non-capital/maintenance projects include those that do not materially add to the value of the property nor appreciably prolong the life of the infrastructure but merely keeps it in an ordinarily efficient operating condition. Expenditures for these maintenance projects are recognized as operating costs.

Dollar amounts for ARP projects are "project feasibility" estimates that can vary by an industry-recognized 20-30 percent. Funding for each year of the ARP is constrained to annual funding targets as estimated and approved by the Office of Management and Budget (OMB). Project estimates and schedules may fluctuate at various points in the lifespan of the ARP and will be revised as needed and on a continuing basis throughout the length of the ARP. The majority of the projects listed below have additional anticipated costs beyond FY 2016.

Project No. 2: Both Locks – Rehabilitate Downstream Miter Gates (Capital Project) (FY 2012 – \$4,380,000) – This project is to completely rehabilitate the miter gate at the downstream end of Snell Lock. It includes replacing worn and/or damaged components including the miter and quoin contact blocks, pintles, and diagonals to insure proper functioning of the miter gates. The FY 2012 estimate exceeds original baseline estimates due to actual costs associated with rehabilitating the upstream miter gates in FYs 2009 and 2010. *(Project funds requested in FY 2011)*

Project No. 5: Both Locks – Rehabilitate Winter Maintenance Lock Covers (Capital Project) (FY 2012 – \$258,000) – This project is for rehabilitating the roof modules used to cover Eisenhower and Snell Locks when major winter maintenance projects are planned. These covers are over 40 years old and require rehabilitation. By installing the new access panels, SLSDC staff will no longer be required to remove entire roof cover modules to access work areas. *(Project funds obligated in FY 2009 and FY 2010)*

Project No. 7: Both Locks – Culvert Valves – Replace with Single Skin Valves (Capital Project) (FYs 2012 and 2013 – \$811,000) – This project is for replacing the double skin culvert valves used for filling and emptying the locks with single skin valves. Cracking of major structural members has occurred and the structural members are not accessible for inspection, blast cleaning, and painting given the double-skin construction. The culvert valves are more than 50 years old and are corroding from the inside. The new single skin valves will provide access to the structural members for inspection and maintenance. The failure of a culvert valve would cause a delay to shipping while the damaged valve was removed and replaced. Dependant on the type of failure, other lock operating components/equipment could be damaged causing the lock to be out of service for a longer time. *(Project funds obligated in FY 2010 and requested in FY 2011)*



Project No. 8: Floating Navigational Aids – Upgrade/Replace (Capital Project) (FYs 2012, 2013, 2014, 2015, and 2016 – \$308,000) – This is an ongoing program to replace floating navigational aids/buoys and winter markers that have been damaged over the years, on an as required basis. The Corporation is responsible for approximately 100 buoys and 50 winter markers. *(Project funds obligated in FY 2009 and FY 2010, and requested for FY 2011)*

Project No. 9: Corporation Equipment – Replace Heavy and Light Equipment, Maintenance Vehicles and Shop Equipment (Capital Equipment) (FYs 2012, 2013, 2014, 2015, and 2016 – \$1,283,000) – This is an ongoing program to replace heavy and light equipment, vehicles and shop equipment as it becomes worn out and unserviceable. Heavy and light equipment includes such items as a crane, dump truck, snowplow, backhoe, grader, front end loader and assorted shop equipment. Equipment and vehicles are inspected regularly and their replacement is prioritized based on the results of those inspections. *(Project funds obligated in FY 2009 and FY 2010, and requested for FY 2011)*

Project No. 10: Both Locks – Upgrade Power Supply Infrastructure from Moses-Saunders Dam to Both Locks and Adjacent Facilities (Non-Capital Maintenance Project) (FYs 2012, 2013, 2014, 2015, and 2016 – \$103,000) – This project is for upgrading the infrastructure that supplies power to Eisenhower and Snell Locks and to the Corporation’s Maintenance Facility. The power is furnished directly from the Moses-Saunders Power Dam over infrastructure that is nearly 50 years old. The loss of power from the Moses-Saunders Power Dam makes it necessary to use diesel generators, which are expensive to operate, to continue operation of Eisenhower and Snell Locks and the Maintenance Facility. Additionally, the diesel generators will not provide enough power to support all lock and maintenance operations. *(Project funds obligated in FY 2009 and FY 2010, and requested for FY 2011)*

Project No. 11: Fixed Navigational Aids – Rehabilitate (Non-Capital Maintenance Project) (FYs 2012, 2013, 2014, 2015, and 2016 – \$922,000) – This project is for rehabilitating fixed navigational aids in the Seaway. Many of the structures are more than 50 years old and are in need of more than routine repairs. Many of these structures have concrete bases which are partially underwater and have experienced varying degrees of damage from water, ice, and freeze-thaw cycles. The inspection of these structures has been completed by divers. Any repairs to the foundations will also require divers as well as the use of a tug and barge with crane to complete. Failure of a fixed aid would likely make replacement necessary at a cost significantly higher than repairing the existing structure. *(Project funds obligated in FY 2010 and requested for FY 2011)*



Project No. 12: Corporation Equipment – Upgrade/Replace Floating Plant (Capital Projects and Non-Capital Maintenance Projects) (FYs 2012, 2014, and 2016 – \$30,334,000) – This is an ongoing program to rehabilitate and/or replace the Corporation's floating plant which is used for maintaining the locks and navigation channels. This multiyear project includes replacing the tug; upgrading the buoy tender barge; purchasing a smaller tug for operations where the capabilities of the larger tug are not efficient and a small scow for transporting dredged

spoil from emergency/spot dredging; and rehabilitating the crane barge/gatelifter which would be used if a miter gate was damaged and had to be replaced. *(Project funds obligated in FY 2009 and FY 2010, and requested for FY 2011)*

Project No. 13: Corporation Facilities – Replace Roofs (Capital Project) (FYs 2012, 2013, 2014, and 2015 – \$1,530,000) – This project is for replacing the roofs on the Corporation's various buildings and facilities in Massena, New York, as required. Most of the roofs are currently insulated ethylene propylene diene monomer (EPDM) roofs with a service life of 10-15 years and have reached the end of that time frame. *(Project funds obligated in FY 2009 and requested for FY 2011)*

Project No. 14: Corporation Facilities – Replace Paving and Drainage Infrastructure (Capital Project) (FYs 2013 and 2015 – \$3,076,000) – This project is for improving the pavement and drainage along lock approach walls as well as the roadways, public parking, and work areas at all Corporation facilities. In Upstate New York, the damage to pavements caused by winter conditions is significant. If repairs are not made before the damage is too severe, complete replacement of the pavement down to and often including the base materials is required at a much higher cost. *(Project funds obligated in FY 2009 (combined with ARP Project No. 3) and FY 2010, and requested for FY 2011)*

Project No. 15: Eisenhower Lock Highway Tunnel – Rehabilitate (Capital Project and Non-Capital Maintenance Project) (FYs 2013 and 2015 – \$513,000)

– This is an ongoing project to maintain the highway tunnel which goes through the upper sill area of Eisenhower Lock, providing the only access to the north sides of both Eisenhower and Snell Locks, to the New York Power Authority's Robert Moses Power Project and to the New York State Park on Barnhart Island. This project includes grouting to limit the water leaking into the tunnel, upgrading the tunnel lighting, replacing damaged/missing tiles from the walls and ceiling, replacing deteriorated/damaged gratings and railings, stabilizing/repairing wingwalls at the tunnel approaches and clearing tunnel drains which are becoming plugged with concrete leachate products. Due to the fact that this tunnel is the only means of access to the facilities noted above, any problems that would make it necessary to close the tunnel for repair would have very significant impacts. *(Project funds obligated in FY 2009 and FY 2010, and requested for FY 2011)*



Project No. 16: Seaway System – Upgrade GPS/AIS/TMS Technologies (Capital Project)

(FYs 2013 and 2015 – \$205,000) – This project is to expand the use of the Seaway's Global Positioning System (GPS)/Automatic Identification System (AIS) navigation technologies, which are incorporated into the Seaway's binational Traffic Management System (TMS). Future upgrades will further improve the safety for vessels transiting the Seaway. Plans are to use these technologies to enable vessels to better identify hazards at times of limited visibility. *(Project funds obligated in FY 2009 and FY 2010, and requested for FY 2011)*

Project No. 17: Navigation Channels – Dredge U.S. Sectors to Maintain Design Grade and Dispose of Sediments (Non-Capital Maintenance Project) (FY 2015 – \$5,152,000)

– This project is for dredging of the navigation channel to remove sediment and to maintain the design grade for the channel bottom. In FY 2009, the SLSDC awarded an ARP contract to complete maintenance dredging for both the intermediate pool (between Eisenhower and Snell Locks) and the international tangent section to the east of Snell Lock. The dredging in the intermediate pool, which was started in the fall of 2009, is essentially complete. However, the contractor will return in the fall of 2011 to complete dredging work at the international tangent. For FY 2015, the Corporation will focus on other sections of the St. Lawrence River under U.S. jurisdiction that require maintenance dredging. *(Project funds obligated in FY 2009)*

Project No. 19: Corporation Facilities – Upgrade Electrical Distribution Equipment

(Capital Project) (FY 2012 – \$400,000) – This project is for upgrading electrical distribution equipment at both Eisenhower and Snell Locks and at the Maintenance Facility to insure continued reliability. The majority of this equipment is more than 50 years old. *(Project funds obligated in FY 2010 and requested for FY 2011)*

Project No. 22: Both Locks – Install Vessel Self Spotting Equipment (Capital Project) (FYs 2014 and 2015 – \$579,000) – This project is for installing equipment at both Eisenhower and Snell Locks such that transiting vessels can spot/locate themselves in the lock. This new technology, once fully implemented, will reduce labor costs for locking vessels. The Canadian St. Lawrence Seaway Management Corporation (SLSMC) has completed testing this new technology and have installed it at their locks.



Project No. 23: Both Locks – Install Vessel Vacuum Mooring Systems (Capital Project) (FY 2016 – \$4,971,000) – This project is for installing vessel vacuum mooring equipment at both Eisenhower and Snell Locks to hold vessels in place while they are in the lock. This new technology, once fully implemented, will reduce labor costs for locking vessels. The Canadian SLSMC is continuing to develop and test this technology at its locks.

Project No. 24: Both Locks – Structural Repair – Grout Leaks in Galleries and Recesses (Non-Capital Maintenance Project) (FY 2012 – \$203,000) – This project is for grouting cracks/joints in the concrete in the galleries and recesses at both Eisenhower and Snell Locks to reduce the infiltration of water into these areas. Water leaking into these areas accelerates the corrosion of the components/machinery and makes it difficult to perform maintenance on these items. *(Project funds obligated in FY 2009)*

Project No. 26: Corporation Facilities – Upgrade Storage for Lock Spare Parts (Capital Project) (FYs 2012 and 2014 – \$408,000) – This project is for constructing shelters/buildings for storage of lock spare parts and equipment to prevent them from corroding. Many of these items are currently not stored under cover and/or are stored in old storage sheds that are in need of repair or replacement. *(Project funds obligated in FY 2010)*

Project No. 27: Corporation Facilities – Replace Windows and Doors and Repair Building Facades (Capital Project) (FYs 2012, 2014, and 2016 – \$615,000) – This project is for replacing corroded/worn windows and doors with more energy efficient units and for repairing the brick and stone facades which are in need of repair. *(Project funds obligated in FY 2010)*

Project No. 28: Snell Lock – Walls, Sills and Culverts – Rehabilitate Concrete (Capital Project) (FYs 2013 and 2016 – \$4,115,000) – This project is to replace deteriorated/damaged concrete at Snell Lock in all areas except the diffusers. This includes concrete that has been damaged by freeze-thaw cycles and by vessel impacts. It is resurfacing the mass concrete that forms the locks walls as well as filling and emptying culverts and the gate sills by replacing deteriorated/damaged concrete.



Project No. 29: Eisenhower Lock – Walls, Sills and Culverts – Rehabilitate Concrete (Capital Project) (FY 2015 – \$3,091,000) – This project is to replace deteriorated/damaged concrete at Eisenhower Lock in all areas except the diffusers. This includes concrete that was of poor quality when placed during original construction and concrete that has been damaged by freeze-thaw cycles and by vessel impacts. This project includes resurfacing the mass concrete that forms the locks walls as well as filling and emptying

culverts and the gate sills by replacing concrete to depths ranging between approximately 8 inches and 24 inches. *(Project funds obligated in FY 2010)*

Project No. 32: Snug Harbor – Rehabilitate Spare Gate Storage and Assembly Area (Capital Project) (FYs 2012 and 2013 – \$509,000) – This project is for rehabilitating the spare miter gate storage and assembly area at Snug Harbor. The work will include repair of the spare gate assembly pads and their supporting piles, repairs to failing sheetpile bulkheads, and painting of the spare miter gates and gate assembly towers. *(Project funds obligated in FY 2010 and requested for FY 2011)*

Project No. 33: Both Locks – Upgrade Drainage Infrastructure in Galleries and Recesses (Capital Project) (FYs 2012, 2013, 2014, and 2015 – \$614,000) – This project is to open existing drains or to drill new drains in the galleries and machinery recesses at both Eisenhower and Snell Locks. The drains are being filled up with concrete leachate products which slow and/or stop the drains and cause flooding of the galleries and machinery recesses.

Project No. 34: Both Locks – Improve Ice Control (Capital Project) (FYs 2012, 2013, 2014, and 2015 – \$921,000) – This project is to improve the methods/equipment used to control ice in and around Eisenhower and Snell Locks during the opening and closing of each navigation season. Air curtains and bubblers are currently used to minimize the ice entering a lock chamber and to move it away from the miter gates. Backhoes are used for removing ice from the lock walls, which reduces the width available for transiting vessels. Improvements to existing systems/equipment and utilizing new technologies would make operations during icy conditions more efficient and would minimize damages to the lock components and transiting vessels. *(Project funds obligated in FY 2010 and requested for FY 2011)*

Project No. 35: Vessel Mooring Cells – Rehabilitate and Extend (Capital Project) (FYs 2013 and 2014 – \$2,045,000) – This project is for rehabilitating and extending the vessel mooring cells upstream of Eisenhower Lock and in the Intermediate Pool between the locks. These mooring cells are available for vessels with problems to tie to until the problems can be corrected and/or for vessels to tie to for inspections. The existing cells are more than 50 years old, are in a state of disrepair and are too short for current Seaway length vessels. *(Project funds requested for FY 2011)*

Project No. 36: Eisenhower Lock – Diffusers – Replace (Capital Project) (FY 2012 – \$3,045,000) – This project is to replace deteriorated/damaged concrete in the diffusers at Eisenhower Lock. This includes poor quality concrete used during original construction of the locks as well as concrete that was damaged by freeze-thaw cycles. The diffusers are the outlet structures used to dampen the flow of water when the lock is emptied.

Project No. 37: Eisenhower Lock – Construct Drydock for Vessel Maintenance (Capital Project) (FY 2015 – \$800,000) – This project is for constructing a drydock in Eisenhower Lock so that repairs to the Corporation's floating plant can be made on site. Because a lock is dewatered in the winter, it could serve as a drydock by installing a floor and some pedestals/blocking in a section of the lock to accommodate the Corporation's vessels. This would save both the cost of transporting vessels to a drydock typically located in the Great Lakes and the daily rate costs associated with drydocking a vessel.

Project No. 38: Both Locks – Upgrade/Replace Emergency Generators (Capital Project) (FYs 2012 and 2013 – \$1,018,000) – This project is for replacing the emergency generators at both Eisenhower and Snell Locks and for installing a generator removed from the locks at the Maintenance Facility. The generators at the locks are over 20 years old and cannot carry the total load. Also, installing one of these units at the Maintenance Facility with an automatic transfer switch will enable maintenance activities to continue and will insure that water lines will not freeze and break in the event of a power outage.

Project No. 39: Both Locks – Dewatering Pumps – Upgrade Outdated Equipment (Capital Project) (FYs 2012 and 2013 – \$407,000) – This project is for replacing the pumps used for dewatering both Eisenhower and Snell Locks for maintenance of their underwater components. These pumps are over 50 years old and parts for these units are no longer available.

Project No. 40: Both Locks – Extend Guidewalls in Pool (Capital Project) (FYs 2013 and 2015 – \$3,076,000) – This project is for extending the downstream guidewall at Eisenhower Lock and the upstream guidewall at Snell Lock. These approach walls were part of the original construction and are too short for mooring maximum Seaway length vessels.

Project No. 41: Snell Lock – Install Ice Flushing System Technologies (Capital Project) (FYs 2012, 2013, and 2014 – \$9,922,000) – This multi-year project will result in the installation of an ice flushing system at Snell Lock similar to the one already in operation at Eisenhower Lock. The project is critical to the safe and efficient operation of Snell Lock during the waterway's opening and closing periods when ice is present. With today's larger ships transiting the Seaway, the lock must be flushed almost completely free of ice before a vessel can be allowed to enter the locks because of the limited space between the vessels and the lock walls. Currently, ice is flushed from the Snell Lock chamber by utilizing the lock filling valves, exposing them to very high water flow/velocity for long periods of time. This causes the valves to vibrate and, in some instances, incur damage.

Project No. 42: Both Locks – Miter Gates – Structural Rehabilitation (Capital Project) (FYs 2012, 2013, 2014, and 2015 – \$3,068,000) – This project is to blast clean and paint the miter gates at both U.S. Seaway locks to prevent further corrosion of these structures. They were last cleaned and painted almost 30 years ago.



Project No. 43: Both Locks – Miter Gate Machinery – Upgrade/ Replace (Capital Project) (FYs 2012 and 2015 – \$3,281,000) – This project is for replacing the operating machinery for the miter gates at both locks. This machinery is more than 50 years old and needs to be upgraded to insure its continued reliability. The upgrade will include new hydraulic operating equipment to match the improvements made at the Canadian Seaway locks and the other locks in the United States.

Project No. 44: Both Locks – Ship Arrestor Machinery – Upgrade/Replace (Capital Project) (FYs 2014 and 2015 – \$825,000) – This project is for replacing the operating machinery for the ship arrestors at both Eisenhower and Snell Locks. The ship arrestors protect the miter gates from damage that would be caused should a vessel malfunction, making it unable to stop. This operating machinery is more than 50 years old and needs to be upgraded to insure continued reliability.

Project No. 45: Flow Control Dikes – Rehabilitate (Capital Project) (FY 2015 – \$515,000) – This project is for placing additional stone on the dikes downstream of Snell Lock to return them to their original cross-section. These dikes were constructed to deflect the outflow from the Moses-Saunders Power Dam, which enters the Seaway navigation channel downstream of Snell Lock, so that it doesn't cause problems for vessels transiting that area. Over time, stones are moved by the forces of the water and ice. Work needs to be done to restore the dikes to their as-constructed condition.

Project No. 46: Both Locks – Guidewall Extensions – Rehabilitate (Capital Project) (FYs 2015 and 2016 – \$1,033,000) – This project is to repair damage to the guidewall extensions located at the upstream end of Eisenhower Lock and at the downstream end of Snell Lock. These structures were erected after original construction of the locks to lengthen the approach walls, which are used to assist vessels entering the locks. These structures are comprised of sheet pile cells with bridge spans and are not as stable as the original mass concrete guidewalls. They have been damaged by vessel impacts over the years and require rehabilitation to maintain their serviceability.

Project No. 47: Eisenhower Lock – Vertical Lift Gate – Structural Rehabilitation (Capital Project) (FY 2016 – \$725,000) – This project is for blast cleaning and painting the vertical lift gate at Eisenhower Lock to prevent corrosion. The vertical lift gate is an emergency closure designed to be raised in the event of a miter gate failure to prevent loss of the power pool. This gate has not been treated in over 20 years.

Project No. 51: Corporation Facilities – Upgrade Physical Security to Meet HSPD-12 Requirements (Capital Project) (FYs 2012 and 2013 – \$100,000) – This project is for procuring the Personal Identity Verification (PIV) cards required by the Department as well as the procurement and installation of necessary PIV card readers and other required infrastructure to meet HSPD-12 requirements. *(Project funds obligated in FY 2010 and requested for FY 2011)*

Project No. 52: Eisenhower Lock Visitors’ Center – Replace (Capital Project) (FY 2013 – \$5,000,000) – The Dwight D. Eisenhower Lock Visitors’ Center is approaching 50 years of age and is in need of replacement. Each year, the facility is visited by more than 50,000 people and is an important attraction for Upstate New York tourism. The Center provides historical displays on the St. Lawrence Seaway and U.S. President Eisenhower and also includes observation decks for tourists to watch vessels transiting the lock. Due to more critical maintenance needs, only a minimal amount of maintenance has been performed over the years by the SLSDC on the facility. A new Visitors’ Center is needed to meet federal physical security and handicap accessibility standards. Due to the condition of the facility, replacement would be a more cost effective solution than remodeling.

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**Saint Lawrence Seaway Development Corporation (SLSDC)
Fiscal Year 2009 and 2010 Asset Renewal Program (ARP) Obligations**

ARP #	Description	ARP Year No. 1 FY 2009 Obligations	ARP Year No. 2 FY 2010 Obligations
1	Snell Lock - Replace Fendering Downstream Guidewall Extension	\$241,600	\$8,091
3	Both Locks - Rehabilitate Mooring Buttons, Pins, and Concrete Along Guidewalls and Guardwalls	\$921,837	\$35,422
4	Both Locks - Culvert Valve Machinery - Upgrade to Hydraulic Operation	\$4,117,050	\$344,915
5	Both Locks - Rehabilitate Winter Maintenance Lock Covers	\$46,698	\$6,638
6	Seaway International Bridge - Perform Structural Rehabilitation and Corrosion Prevention	\$3,102,878	\$5,680,707
7	Both Locks - Culvert Valves - Replace With Single Skin Valves	\$0	\$326,898
8	Floating Navigational Aids - Replace	\$61,254	\$54,576
9	Corporation Equipment - Replace Heavy and Light Equipment, Maintenance Vehicles, and Shop Equipment	\$1,574,504	\$481,052
10	Both Locks - Upgrade Power Supply Infrastructure from Moses-Saunders Dam to Both Locks and Adjacent Facilities	\$19,594	\$231,269
11	Fixed Navigational Aids - Rehabilitate	\$0	\$10,998
12	Corporation Equipment - Upgrade/Replace Floating Plant	\$678,745	\$1,627,925
13	Corporation Facilities - Replace Roofs	\$143,949	\$0
14	Corporation Facilities - Replace Paving and Drainage Infrastructure	\$0	\$1,829,621
15	Eisenhower Lock - Highway Tunnel - Rehabilitate	\$26,636	\$271,804
16	System System - Upgrade GPS/AIS/TMS Technologies	\$100,997	\$76,451
17	Navigation Channels - Dredge U.S. Sectors to Maintain Design Grade and Dispose of Sediments	\$4,279,556	\$0
18	Eisenhower Lock - Vertical Lift Gate - Replace Wire Ropes	\$0	\$487,750
19	Corporation Facilities - Upgrade Electrical Distribution Equipment	\$0	\$753,400
20	Both Locks - Upgrade Lock Status/Controls	\$8,558	\$139,805
21	Both Locks - Compressed Air Systems - Upgrade/Replace	\$19,878	\$787,549
24	Both Locks - Structural Repair - Grout Leaks in Galleries and Recesses	\$37,561	\$0
25	Corporation Facilities - Upgrade/Replace Fire Alarm/Protection Systems	\$4,148	\$0
26	Corporation Facilities - Upgrade Storage for Lock Spare Parts	\$0	\$418,000
27	Corporation Facilities - Replace Windows and Doors and Repair Building Facades	\$0	\$33,776
29	Eisenhower Lock - Walls, Sills, and Culverts - Rehabilitate Concrete	\$0	\$209,395
31	Both Locks - Rehabilitate Upstream Miter Gates (FY 2009 at Eisenhower Lock / FY 2010 at Snell Lock)	\$2,201,585	\$2,478,896
32	Snug Harbor - Rehabilitate Spare Gate Storage and Assembly Area	\$0	\$12,734
34	Both Locks - Improve Ice Control	\$0	\$7,462
51	Corporation Facilities - Upgrade Physical Security to Meet HSPD-12 Requirements	\$0	\$24,183
--	Miscellaneous Expenses	\$0	\$443
	Asset Renewal Program Total	\$17,587,028	\$16,339,760

(1) In FY 2009, ARP Project Nos. 3 and 14 were contractually combined.

(2) The SLSDC expended an additional \$474,000 and \$535,000 in personnel compensation and benefits from its "Agency Operations" program for staff time associated with ARP work in FY 2009 and FY 2010, respectively.

(3) The miscellaneous expenses of \$443 in FY 2010 were for ARP-related travel costs by SLSDC personnel that could not be linked to a specific ARP project.

U.S. Seaway Asset Renewal Program Capital Investment Plan FY 2012-2016

Project No.	Project Title	Type of Project (1)	Mission Objective (2)	Time Work Completed (3)	FY 2012 Request	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	FY 2016 Estimate	Five-Year Total
2	Both Locks - Rehabilitate Downstream Miter Gates	CP	L	Winter	\$4,380,000					\$4,380,000
5	Both Locks - Rehabilitate Winter Maintenance Lock Covers	CP	L	Other	\$258,000					\$258,000
7	Both Locks - Culvert Valves - Replace with Single Skin Valves	CP	L	Other	\$405,000	\$406,000				\$811,000
8	Floating Navigational Aids - Replace	CP	W	Other	\$61,000	\$61,000	\$62,000	\$62,000	\$62,000	\$308,000
9	Corporation Equipment - Replace Heavy and Light Equipment, Maintenance Vehicles and Shop Equipment	CE	L, W	Other	\$255,000	\$255,000	\$256,000	\$258,000	\$259,000	\$1,283,000
10	Both Locks - Upgrade Power Supply Infrastructure from Moses-Saunders Dam to Both Locks and Adjacent Facilities	MP	L	Other	\$20,000	\$20,000	\$21,000	\$21,000	\$21,000	\$103,000
11	Fixed Navigational Aids - Rehabilitate	MP	W	Other	\$100,000	\$204,000	\$205,000	\$206,000	\$207,000	\$922,000
12	Corporation Equipment - Upgrade/Replace Floating Plant	CP/MP	L, W	Other	\$1,524,000		\$18,455,000		\$10,355,000	\$30,334,000
13	Corporation Facilities - Replace Roofs	CP	F	Other	\$230,000	\$300,000	\$500,000	\$500,000		\$1,530,000
14	Corporation Facilities - Replace Paving and Drainage Infrastructure	CP	L, F	Other		\$1,530,000		\$1,546,000		\$3,076,000
15	Eisenhower Lock - Highway Tunnel - Rehabilitate	CP/MP	T/B	Other		\$255,000		\$258,000		\$513,000
16	Seaway System - Upgrade GPS/AIS/TMS Technologies	CP	W	Other		\$102,000		\$103,000		\$205,000
17	Navigation Channels - Dredge U.S. Sectors to Maintain Design Grade and Dispose of Sediments	MP	W	Other				\$5,152,000		\$5,152,000
19	Corporation Facilities - Upgrade Electrical Distribution Equipment	CP	L, F	Other	\$400,000					\$400,000
22	Both Locks - Install Vessel Self Spotting Equipment	CP	L	Other			\$288,000	\$291,000		\$579,000
23	Both Locks - Install Vessel Vacuum Mooring Systems	CP	L	Winter					\$4,971,000	\$4,971,000
24	Both Locks - Structural Repair - Grout Leaks in Galleries and Recesses	MP	L	Other	\$203,000					\$203,000
26	Corporation Facilities - Upgrade Storage for Lock Spare Parts	CP	L, F	Other	\$203,000		\$205,000			\$408,000
27	Corporation Facilities - Replace Windows and Doors and Repair Building Facades	CP	F	Other	\$203,000		\$205,000		\$207,000	\$615,000
28	Snell Lock - Walls, Sills and Culverts - Rehabilitate Concrete	CP	L	Winter		\$2,040,000			\$2,075,000	\$4,115,000
29	Eisenhower Lock - Walls, Sills and Culverts - Rehabilitate Concrete	CP	L	Winter				\$5,091,000		\$3,091,000
32	Snug Harbor - Rehabilitate Spare Gate Storage and Assembly Area	CP	L	Other	\$254,000	\$255,000				\$509,000
33	Both Locks - Upgrade Drainage Infrastructure in Galleries and Recesses	CP	L	Other	\$152,000	\$153,000	\$154,000	\$155,000		\$614,000
34	Both Locks - Improve Ice Control	CP	L	Winter	\$228,000	\$230,000	\$231,000	\$232,000		\$921,000
35	Vessel Mooring Cells - Rehabilitate and Extend	CP	W	Other		\$1,020,000	\$1,025,000			\$2,045,000
36	Eisenhower Lock - Diffusers - Replace	CP	L	Winter	\$3,045,000					\$3,045,000
37	Eisenhower Lock - Construct Drydock for Vessel Maintenance	CP	L, W	Winter				\$800,000		\$800,000
38	Both Locks - Upgrade/Replace Emergency Generators	CP	L	Winter	\$508,000	\$510,000				\$1,018,000

U.S. Seaway Asset Renewal Program Capital Investment Plan FY 2012-2016

Project No.	Project Title	Type of Project (1)	Mission Objective (2)	Time Work Completed (3)	FY 2012 Request	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	FY 2016 Estimate	Five-Year Total
39	Both Locks - Dewatering Pumps - Upgrade Outdated Equipment	CP	L	Other	\$203,000	\$204,000				\$407,000
40	Both Locks - Extend Guidewalls in Pool	CP	L	Other		\$1,530,000		\$1,546,000		\$3,076,000
41	Snell Lock - Install Ice Flushing System Technologies	CP	L	Winter	\$2,000,000	\$5,103,000	\$2,819,000			\$9,922,000
42	Both Locks - Miter Gates - Structural Rehabilitation	CP	L	Winter	\$761,000	\$765,000	\$769,000	\$773,000		\$3,068,000
43	Both Locks - Miter Gate Machinery - Upgrade/Replace	CP	L	Winter	\$1,632,000			\$1,649,000		\$3,281,000
44	Both Locks - Ship Arrestor Machinery - Upgrade/Replace	CP	L	Winter			\$410,000	\$415,000		\$825,000
45	Flow Control Dikes - Rehabilitate	CP	W	Other				\$515,000		\$515,000
46	Both Locks - Guidewall Extensions - Rehabilitate	CP	L	Other				\$515,000	\$518,000	\$1,033,000
47	Eisenhower Lock - Vertical Lift Gate - Structural Rehabilitation	CP	L	Winter					\$725,000	\$725,000
51	Corporation Facilities - Upgrade Physical Security to Meet HSPD-12 Requirements	CP	F	Other	\$50,000	\$50,000				\$100,000
52	Eisenhower Lock Visitors' Center - Replace	CP	F	Other		\$5,000,000				\$5,000,000
					\$17,075,000	\$19,993,000	\$25,605,000	\$18,088,000	\$19,400,000	\$100,161,000

(1) CP=Capital Project; CE=Capital Equipment; MP=Non-Capital Maintenance Project

(2) L=Lock Operation Upgrade and Maintenance; W=Waterway Management; T/B=Tunnel and Bridge Maintenance; F=Facility/Equipment Upgrade and Maintenance

(3) Winter=During Non-Navigation Season; Other=Other Than Non-Navigation Season

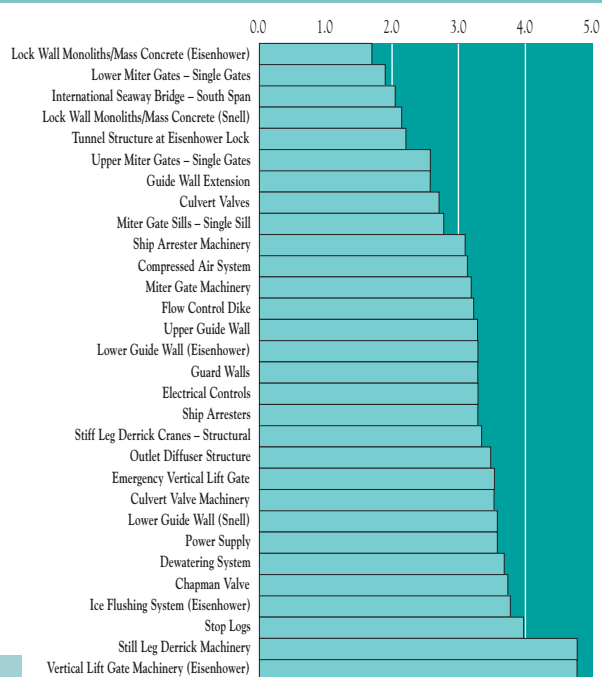
Notes: (a) Estimates as of February 2011 and (b) dollar amounts for ARP projects are "project feasibility" estimates that can vary by an industry-recognized contingency of 20-30 percent

MLO SECTION – U.S. COMPONENTS

The U.S. portion of the St. Lawrence Seaway consists of the Snell and Eisenhower Locks, which are virtually identical in design but which manifest significant differences in their condition. The Eisenhower Lock suffers from poor concrete quality, which has led to advanced concrete degradation of the lock walls and seepage around a road tunnel that provides access to the Moses-Saunders hydroelectric dam.

Mass concrete	While concrete at the Snell Lock is in relatively good shape, the concrete at the Eisenhower Lock has deteriorated significantly. Up to 1.2 m (4 ft) of concrete has to be removed to get to sound underlying concrete. The service tunnel through the lock sill has experienced cracking, leakage, and ice build-up in winter. Grouting has been used repeatedly but the problem continues to worsen.
Approach walls	The approach walls and guide walls at both the Snell and Eisenhower Locks have suffered considerable wear and tear from ship impacts. They maintain their integrity, though regular maintenance is required.
Gates	The upper miter gates are in good operating condition at both locks. The pintles, quoin blocks and miter blocks are subject to significant wear and are replaced on a ‘fix-as-fails’ basis. The lower gates at both Snell and Eisenhower show considerable cracking. Cracking in the Snell gates is about three times as extensive as in the Eisenhower gates and is a major cause for concern.
Stoplogs	The Snell and Eisenhower locks have complete sets of stoplogs for dewatering. They are installed using stiff-leg derrick cranes. The Eisenhower Lock also has an emergency vertical lift gate that protects the upstream pool level in the event of a catastrophic failure of the miter gates.
Ship arrestors	The ship arrestors at the Eisenhower and Snell Locks date from the original construction and are in need of modernization.

Machinery & controls Programmable logic controllers are used to control both the Snell and Eisenhower Locks. The latter houses the control room for SLSDC’s new vessel tracking system, which monitors ship movements throughout the Seaway. The SLSDC will need new ship positioning, hydraulics and ship mooring technology to harmonize lock operations with the SLSMC.

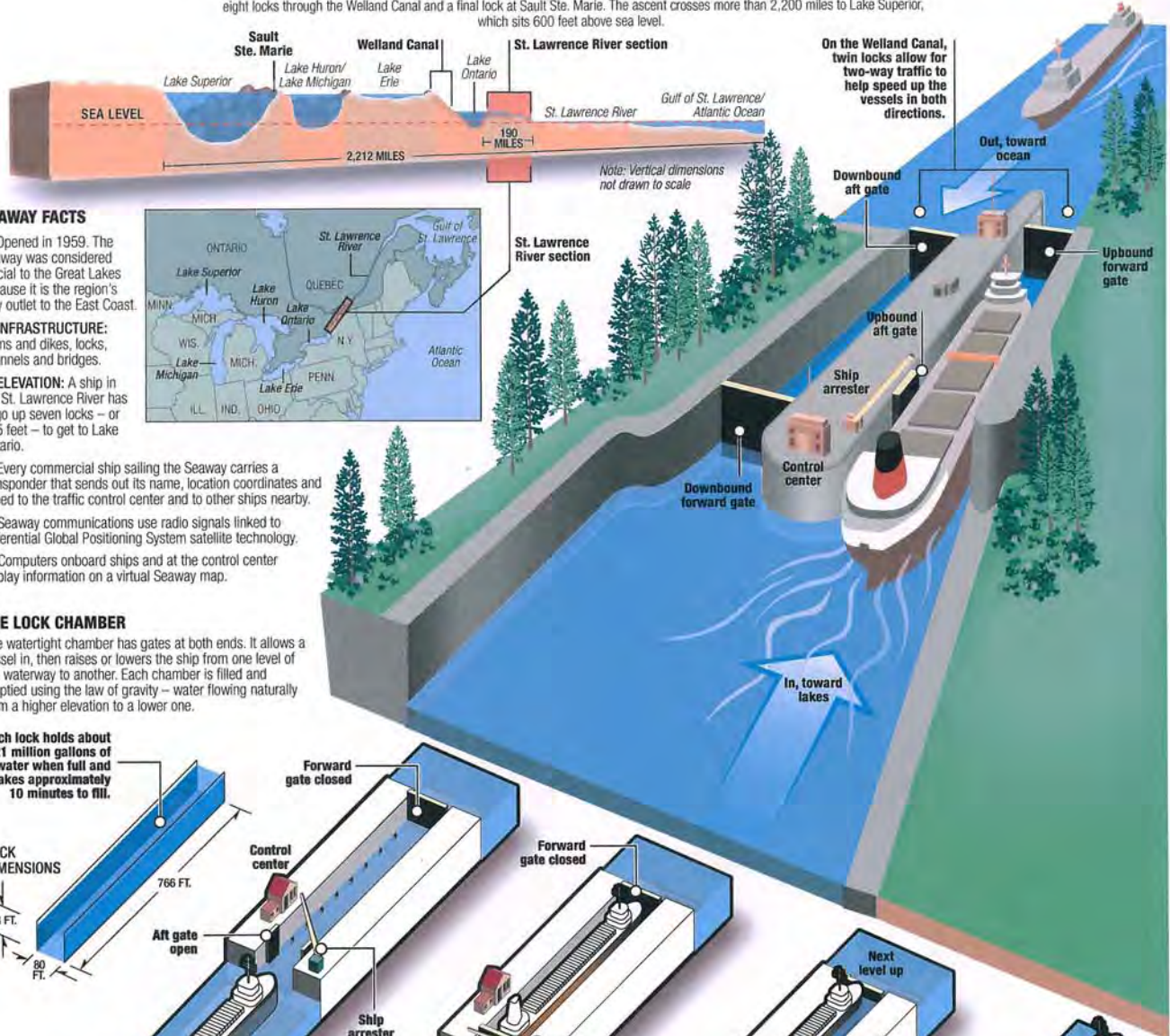


Components with the lowest values in this ranking system were considered the most critical.

At the SLSDC facilities on the St. Lawrence River, the most critical areas are associated with concrete quality at the Eisenhower Lock, the condition of the lower miter gates at both locks, the south span of the Seaway International Bridge, and the Eisenhower Lock highway tunnel.

SEAWAY LOCKS: A 600-FOOT CLIMB IN 16 STEPS

A ship traveling from Montreal to a port in Lake Superior has to navigate seven lock chambers in the St. Lawrence River, another set of eight locks through the Welland Canal and a final lock at Sault Ste. Marie. The ascent crosses more than 2,200 miles to Lake Superior, which sits 600 feet above sea level.



SEAWAY FACTS

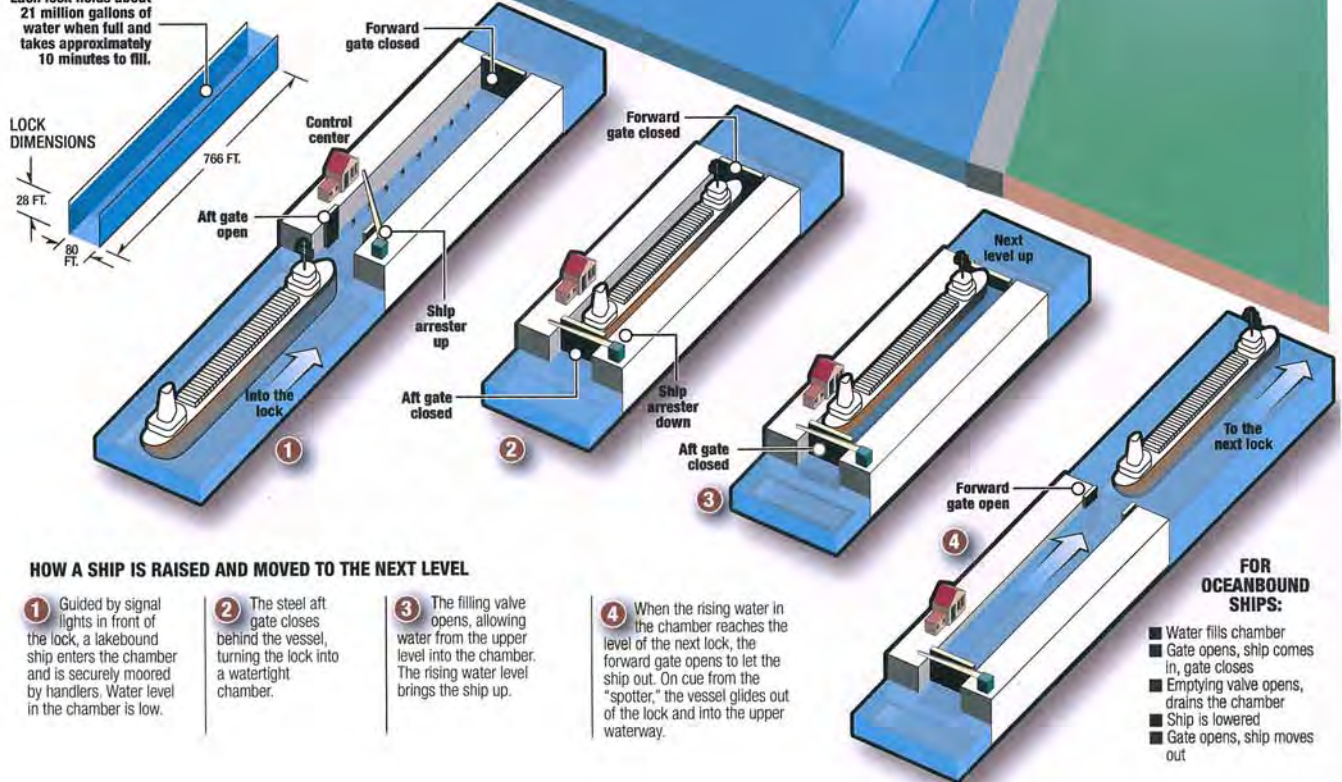
- Opened in 1959. The Seaway was considered crucial to the Great Lakes because it is the region's only outlet to the East Coast.
- **INFRASTRUCTURE:** Dams and dikes, locks, channels and bridges.
- **ELEVATION:** A ship in the St. Lawrence River has to go up seven locks – or 225 feet – to get to Lake Ontario.
- Every commercial ship sailing the Seaway carries a transponder that sends out its name, location coordinates and speed to the traffic control center and to other ships nearby.
- Seaway communications use radio signals linked to Differential Global Positioning System satellite technology.
- Computers onboard ships and at the control center display information on a virtual Seaway map.



THE LOCK CHAMBER

The watertight chamber has gates at both ends. It allows a vessel in, then raises or lowers the ship from one level of the waterway to another. Each chamber is filled and emptied using the law of gravity – water flowing naturally from a higher elevation to a lower one.

Each lock holds about 21 million gallons of water when full and takes approximately 10 minutes to fill.



HOW A SHIP IS RAISED AND MOVED TO THE NEXT LEVEL

- 1 Guided by signal lights in front of the lock, a lakebound ship enters the chamber and is securely moored by handlers. Water level in the chamber is low.
- 2 The steel aft gate closes behind the vessel, turning the lock into a watertight chamber.
- 3 The filling valve opens, allowing water from the upper level into the chamber. The rising water level brings the ship up.
- 4 When the rising water in the chamber reaches the level of the next lock, the forward gate opens to let the ship out. On cue from the "spotter," the vessel glides out of the lock and into the upper waterway.

FOR OCEANBOUND SHIPS:

- Water fills chamber
- Gate opens, ship comes in, gate closes
- Emptying valve opens, drains the chamber
- Ship is lowered
- Gate opens, ship moves out



U.S. Saint Lawrence Seaway Development Corporation
<http://www.greatlakes-seaway.com>