



**U.S. Department of
Transportation**

BUDGET ESTIMATES

FISCAL YEAR 2010

**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 2010 BUDGET REQUEST
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Budget Summary

Saint Lawrence Seaway Development Corporation
FY 2010 Budget Request
Administrator's Overview

For Fiscal Year (FY) 2010, the Saint Lawrence Seaway Development Corporation (SLSDC) is requesting an appropriation from the Harbor Maintenance Trust Fund (HMTF) of \$32.3 million to fund the daily operations and maintenance of the U.S. portion of the St. Lawrence Seaway as well as Year Two projects of the Seaway's Asset Renewal Program (ARP).

The SLSDC's program budget for FY 2010 also includes the use of \$900,000 in agency estimated non-federal revenues for a total spending plan of \$33.2 million. The spending plan includes \$16.9 million for agency operations and \$16.3 million for ARP projects.

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 \$16.3 million estimate to complete 20 ARP projects in FY 2010 was based on the out-year projection provided in the FY 2009 budget request of \$16.2 million, plus \$82,000 for non-pay inflation. Major ARP projects scheduled for FY 2010 include the continued structural rehabilitation and corrosion prevention of the Seaway International Bridge (\$5.8 million) connecting Ontario and New York, which annually accommodates more than 2.5 million vehicles; major concrete rehabilitation at Eisenhower Lock (\$2 million); and the rehabilitation of the downstream miter gates at the locks (\$1.5 million).

Over the next decade, the ARP will focus on improving aging Seaway infrastructure, conducting maintenance dredging, investing in new technologies, purchasing new equipment, and refurbishing old facilities (*see Tab 5*). The ARP 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. 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 Seaway's 10-year ARP, which began in FY 2009, will 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.

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*¹. 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 will work 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.

SLSDC programs and activities, including the ARP, are principally focused on meeting the Department's Global Connectivity performance measure of meeting the 99 percent or better goal for U.S. Seaway sector availability. The SLSDC is directly responsible for ensuring the safe, efficient, and secure passage of commercial vessels through the binational St. Lawrence Seaway and it has maintained a 99 percent availability rate throughout the waterway's history, beginning in 1959. In addition, the SLSDC's FY 2010 budget request also supports the Departmental strategic goals of Security, Preparedness and Response, and Organizational Excellence.

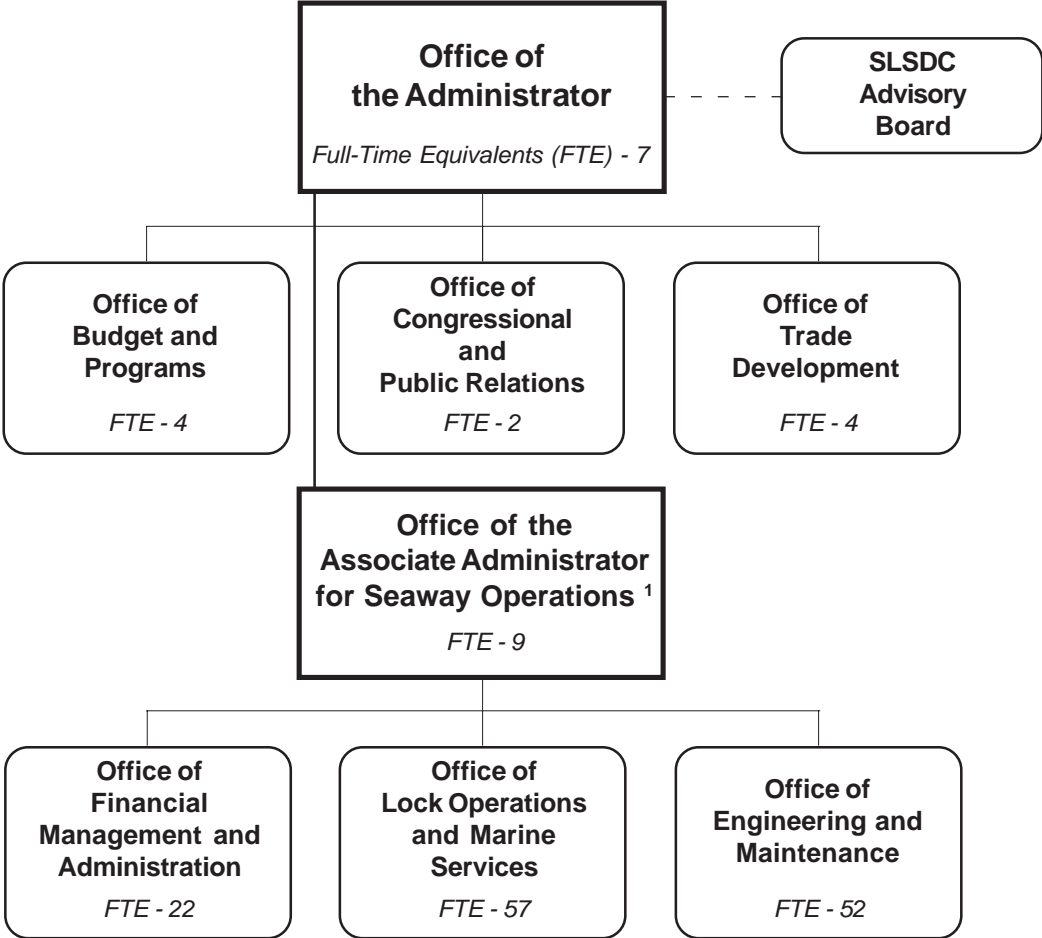
The FY 2010 request includes agency operations net baseline increases of \$700,000 related to pay raises, benefits, rent, Working Capital Fund, and non-pay inflation (*see page 43 for details*). The ARP request in FY 2010 includes the Year Two base amount of \$16.235 million, as highlighted in the *Seaway ARP Capital Investment Plan* as part of the FY 2009 budget request, plus an additional \$82,000 for non-pay inflation.

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), 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, maritime commerce on the Great Lakes Seaway System impacts 150,000 U.S. jobs, \$12 million per day in wages, \$9 million per day 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.

Over the next half century, the Seaway will continue to serve the North American manufacturing industries that depend on the reliable and economical shipment of bulk commodities. The Seaway's cargo base will diversify, however, as project cargoes such as wind turbines increase in importance, and as shippers look to move cargoes traditionally associated with truck and rail.

¹ A copy of the *Great Lakes Seaway Study* can be downloaded at <http://www.glsls-study.com/Supporting%20documents/GLSLS%20finalreport%20Fall%202007.pdf>

Saint Lawrence Seaway Development Corporation Organization Chart FY 2009-2010



¹ All SLSDC FTEs/FTPs are associated with the "Global Connectivity " performance measure of Seaway system availability, except for one FTE/FTP in the office of the Associate Administrator for Seaway Operations, which is directly attributable to the "Security, Preparedness and Response" performance measure.

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**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>	FY 2008 <u>ACTUAL</u>	FY 2009 <u>ENACTED</u>	FY 2010 <u>REQUEST</u>
Operations and Maintenance - HMTF (69-8003)	\$17,392	\$31,842	\$32,324
	-----	-----	-----
SLSDC TOTALS:	\$17,392	\$31,842	\$32,324

EXHIBIT II-2
FY 2010 BUDGET REQUEST BY APPROPRIATION ACCOUNT
Saint Lawrence Seaway Development Corporation
Appropriations
(In thousands of dollars)

<u>ACCOUNT NAME</u>	<u>FY 2008</u> <u>ACTUAL</u>	<u>FY 2009</u> <u>ENACTED</u>	<u>FY 2010</u> <u>REQUEST</u>
<u>Appropriations Request</u>			
Operations and Maintenance - HMTF (69-8003)	\$17,392	\$31,842	\$32,324
<u>Total Program Appropriations</u>			
1. SLSDC Fund (69x4089) ¹			
a. Agency Operations	\$18,292	\$16,207	\$16,907
b. Asset Renewal Program	\$0	\$17,535	\$16,317
	-----	-----	-----
SLSDC TOTALS:	\$18,292	\$33,742	\$33,224

¹ The SLSDC Fund (69x4089) for FY 2010 is proposed to include \$32,324,000 in an appropriation from the Harbor Maintenance Trust Fund (69-8003) and \$900,000 in estimated SLSDC 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 2010 BUDGET REQUEST BY APPROPRIATION ACCOUNT AND STRATEGIC OBJECTIVE
Saint Lawrence Seaway Development Corporation
Appropriations
(in thousands of dollars)

APPROPRIATION/PROGRAM ACTIVITY/PERFORMANCE GOAL	SAFETY	REDUCED CONGESTION	GLOBAL CONN.	ENVIRON. STEWARD.	SECURITY	ORG. EXCELL.	TOTAL
<u>SLSDC Fund (69x4089) ¹</u>	\$0	\$0	\$32,819	\$0	\$285	\$120	\$33,224
<u>Agency Operations and Maintenance</u>							
Increase the Efficiency of Freight Movement: Percent of days in the shipping season that the U.S. portion of the St. Lawrence Seaway is available	\$0	\$0	\$16,502	\$0	\$0	\$0	\$16,502
Expand Business Opportunities: Percent of total dollar value of DOT direct contracts awarded to women-owned businesses <i>(non-add values reflect estimated total contracts to women-owned businesses)</i>	[\$0]	[\$0]	[\$1,217]	[\$0]	[\$0]	[\$0]	[\$130]
Expand Business Opportunities: Percent of total dollar value of DOT direct contracts awarded to small disadvantaged businesses <i>(non-add values reflect estimated total contracts to small disadvantaged businesses)</i>	[\$0]	[\$0]	[\$95]	[\$0]	[\$0]	[\$0]	[\$92]
Expert Transportation Sector Intelligence: Preparedness for response to emergencies affecting the transportation sector (draft measure)	\$0	\$0	\$0	\$0	\$285	\$0	\$285
Fulfill the President's Management Agenda: Achieve financial performance goals, including unqualified annual audit	\$0	\$0	\$0	\$0	\$0	\$120	\$120
Program Activity Subtotal	\$0	\$0	\$16,502	\$0	\$285	\$120	\$16,907
<u>Asset Renewal Plan</u>							
Increase the Efficiency of Freight Movement: Percent of days in the shipping season that the U.S. portion of the St. Lawrence Seaway is available	\$0	\$0	\$16,317	\$0	\$0	\$0	\$16,317
Program Activity Subtotal	\$0	\$0	\$16,317	\$0	\$0	\$0	\$16,317
TOTAL:	\$0	\$0	\$32,819	\$0	\$285	\$120	\$33,224
FTE (direct funded only):	0	0	156	0	1	0	157

¹ The SLSDC Fund (69x4089) for FY 2010 is proposed to include \$32,324,000 in an appropriation from the Harbor Maintenance Trust Fund (69-8003) and \$900,000 in estimated SLSDC 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 2010 BUDGET REQUEST BY APPROPRIATION ACCOUNT
Saint Lawrence Seaway Development Corporation
Budget Authority
(In thousands of dollars)

<u>ACCOUNT NAME</u>	<u>FY 2008</u> <u>ACTUAL</u>	<u>FY 2009</u> <u>ENACTED</u>	<u>FY 2010</u> <u>REQUEST</u>
<u>Appropriations Request</u>			
Operations and Maintenance - HMTF (69-8003)	\$17,392	\$31,842	\$32,324
<u>Total Program Budget Authority</u>			
1. SLSDC Fund (69x4089) ¹			
a. Agency Operations	\$18,292	\$16,207	\$16,907
b. Asset Renewal Program	\$0	\$17,535	\$16,317
	-----	-----	-----
SLSDC TOTALS:	\$18,292	\$33,742	\$33,224

¹ The SLSDC Fund (69x4089) for FY 2010 is proposed to include \$32,324,000 in an appropriation from the Harbor Maintenance Trust Fund (69-8003) and \$900,000 in estimated SLSDC 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 2010 BUDGET REQUEST BY APPROPRIATION ACCOUNT
Saint Lawrence Seaway Development Corporation
Outlays ¹
(In thousands of dollars)

<u>ACCOUNT NAME</u>	<u>FY 2008</u> <u>ACTUAL</u>	<u>FY 2009</u> <u>ENACTED</u>	<u>FY 2010</u> <u>REQUEST</u>
<u>Appropriations Request</u>			
Operations and Maintenance - HMTF (69-8003)	\$17,392	\$31,842	\$32,324
<u>Total Program Outlays</u>			
1. SLSDC Fund (69x4089) ²			
a. Agency Operations	\$16,707	\$16,207	\$16,907
b. Asset Renewal Program	\$0	\$17,535	\$16,317
	-----	-----	-----
SLSDC TOTALS:	\$16,707	\$33,742	\$33,224

¹ Outlays are reported on a cash expenditure basis. The amount of budget authority and outlays for a fiscal year typically differ because budget authority from a previous fiscal year can be used for outlays in the current fiscal year.

² The SLSDC Fund (69x4089) for FY 2010 is proposed to include \$32,324,000 in an appropriation from the Harbor Maintenance Trust Fund (69-8003) and \$900,000 in estimated SLSDC 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-6

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

SLSDC Fund (69x4089) ¹

	FY 2009 Enacted	Baseline Changes					FY 2010 Adjusted Base	Program Increases/ Decreases	FY 2010 Request
		Annual. of 2009 Pay Raises	2010 Pay Raises ²	WCF Inc./Dec.	DOT HQ Rent Inc.	Non-Pay Inflation			
PERSONNEL RESOURCES	157						157		157
Direct FTEs	157						157		157
<u>FINANCIAL RESOURCES</u>									
Administrative Expenses									
Salaries & Benefits	\$3,440	\$73	\$95				\$3,608		\$3,608
Travel	\$69					\$2	\$71		\$71
Transportation	\$2						\$2		\$2
GSA Rent	\$292				\$9		\$301		\$301
Comms & Utilities	\$39					\$1	\$40		\$40
Printing	\$2						\$2		\$2
Other Services:									
WCF	\$331			\$70			\$401		\$401
Other	\$257					\$6	\$263		\$263
Supplies	\$37					\$1	\$38		\$38
Admin. Sub-Total	\$4,469	\$73	\$95	\$70	\$9	\$10	\$4,726		\$4,726
<u>PROGRAMS</u>									
Agency Operations	\$11,738	\$36	\$378			\$29	\$12,181		\$12,181
U.S. Seaway Asset Renewal Program ³	\$17,535					82	\$17,617	(\$1,300)	\$16,317
GRAND TOTAL	\$33,742	\$109	\$473	\$70	\$9	\$121	\$34,524	(\$1,300)	\$33,224

¹ The SLSDC Fund (69x4089) is proposed to include \$32,324,000 in an appropriation from the Harbor Maintenance Trust Fund (69-8003) and \$900,000 in estimated SLSDC 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 "FY 2010 "Pay Raises" column includes \$254,000 for General Schedule (GS) and Wage Grade (WG) pay increases and \$219,000 for benefits increases.

³ The FY 2010 budget request includes a Year Two Seaway Asset Renewal Program (ARP) base amount of \$16,235,000, as highlighted in the *Seaway ARP Capital Investment Plan* as part of the FY 2009 budget request, plus an additional \$82,000 for non-pay inflation (0.5 percent).

EXHIBIT II-6A
WORKING CAPITAL FUND
Saint Lawrence Seaway Development Corporation
Appropriations
(In thousands of dollars)

<u>ACCOUNT NAME</u>	<u>FY 2009 ENACTED</u>	<u>FY 2010 REQUEST</u>	<u>CHANGE</u>
DIRECT:			
Operations and Maintenance - HMTF (69-8003)	\$331	\$401	\$70
	-----	-----	-----
SLSDC TOTALS:	\$331	\$401	\$70

EXHIBIT II-7
Saint Lawrence Seaway Development Corporation
PERSONNEL RESOURCE -- SUMMARY
Total Full-Time Equivalentts

<u>ACCOUNT(S)</u>	<u>FY 2008</u> <u>ACTUAL</u>	<u>FY 2009</u> <u>ENACTED</u>	<u>FY 2010</u> <u>REQUEST</u>
Operations and Maintenance - HMTF (69-8003)	143	157	157
	-----	-----	-----
TOTAL FTEs:	143	157	157

EXHIBIT II-8
Saint Lawrence Seaway Development Corporation
RESOURCE SUMMARY -- STAFFING
Full-Time Permanent Positions

<u>ACCOUNT(S)</u>	<u>FY 2008</u> <u>ACTUAL</u>	<u>FY 2009</u> <u>ENACTED</u>	<u>FY 2010</u> <u>REQUEST</u>
Operations and Maintenance - HMTF (69-8003)	141	157	157
	-----	-----	-----
TOTAL POSITIONS:	141	157	157

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**Budget Request by
Approp 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, \$32,324,000, to be derived from the Harbor Maintenance Trust Fund, pursuant to Public Law 99-662. (*Department of Transportation Appropriations Act, 2009.*)

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**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	2008 ACTUAL	2009 ENACTED	2010 REQUEST
Obligations by program activity:			
10.00 Total new obligations (object class 25.2)	17,392	31,842	32,324
Budgetary resources available for obligation:			
22.00 New budget authority (gross)	17,392	31,842	32,324
23.95 Total new obligations (-)	(17,392)	(31,842)	(32,324)
New budget authority (gross), detail:			
Discretionary			
40.26 Appropriation (trust fund, definite)	17,392	31,842	32,324
40.75 Reduction	...	...	...
43.00 Appropriation (total discretionary)	17,392	31,842	32,324
Change in unpaid obligations:			
73.10 Total new obligations	17,392	31,842	32,324
73.20 Total outlays (gross) (-)	(17,392)	(31,842)	(32,324)
Outlays (gross), detail:			
86.90 Outlays from new discretionary authority	17,392	31,842	32,324
New budget authority and outlays:			
89.00 Budget authority	17,392	31,842	32,324
90.00 Outlays	17,392	31,842	32,324

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
 History of Appropriations
 Operations and Maintenance (69-8003)
 (Harbor Maintenance Trust Fund)**

<u>YEAR</u>	<u>REQUEST</u>	<u>YEAR</u>	<u>ENACTED</u>
2001	0 /1	2001	\$12,975,391 /2
2002	\$13,345,000	2002	\$13,305,000 /3
2003	\$14,086,000	2003	\$13,974,000 /4
2004	\$14,400,000	2004	\$14,273,000 /5
2005	\$15,900,000	2005	\$15,707,000 /6
2006	\$ 8,000,000 /7	2006	\$16,121,000 /8
2007	\$ 7,920,000 /9	2007	\$16,223,160 /10
2008	\$17,392,000	2008	\$17,392,000
2009	\$31,842,000	2009	\$31,842,000
2010	\$32,324,000		

1/ Proposed as a performance-based organization using mandatory (permanent) budget authority.

2/ Reflects reduction of \$28,609 (.22%) pursuant to P.L. 106-554 (Sec. 1403).

3/ Reflects reductions of \$11,000 pursuant to P.L. 107-87 (Sec. 349) for TASC, \$10,000 pursuant to P.L. 107-117 (Sec. 1106) for TASC, and \$19,000 pursuant to P.L. 107-206 (Sec. 1403).

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

5/ 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).

6/ 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)

7/ 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.

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

9/ 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.

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

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. (*Department of Transportation Appropriations Act, 2009.*)

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EXHIBIT III-1

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

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>CHANGE</u>
	<u>ACTUAL</u>	<u>ENACTED</u>	<u>REQUEST</u>	<u>(2009-10)</u>
<u>SLSDC Fund – 69x4089</u> ¹				
<u>Program Activity</u>				
Agency Operations	\$18,292	\$16,207	\$16,907	\$ 700
Seaway Asset Renewal Program ²	0	\$17,535	16,317	(1,218)
	-----	-----	-----	-----
Total ³	\$18,292	\$33,742	\$33,224	(\$ 518)
FTEs	143	157	157	0

¹ The SLSDC Fund (69x4089) in FY 2010 is proposed to include \$32,324,000 in an appropriation from the Harbor Maintenance Trust Fund (69-8003) and \$900,000 in estimated SLSDC 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 The FY 2010 budget request includes a Year Two Seaway Asset Renewal Program (ARP) base amount of \$16,235,000, as highlighted in the *Seaway ARP Capital Investment Plan* included in the FY 2009 budget request, which is \$1.3 million less than the enacted FY 2009 level, plus an additional \$82,000 for non-pay inflation (0.5 percent).

³ Changes in totals for the table above differ from Exhibits II-1, II-2, and II-3, in that those Exhibits only included enacted and requested appropriation levels (69-8003). This table highlights the SLSDC's revolving fund (69x4089), which includes appropriations, non-federal revenues and reserve funds, and represents the agency's spending totals.

EXHIBIT III-2

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

**SUMMARY ANALYSIS OF CHANGES FROM FY 2009 TO FY 2010
(In thousands of dollars)**

Item	Change from FY 2009 to FY 2010	FY 2010 PC&B by Program	FY 2010 FTEs by Program	FY 2010 Contract Expenses	Total
FY 2009 Base (Enacted)		Note: Columns are Non-Add			
SLSDC Fund (69x4089) ¹			157		\$33,742
Adjustments to Base					
Annualization of 2009 Pay Raises	\$ 109				
2010 Pay Raises (GS and WG) / Benefits	473				
Working Capital Fund	70				
Non-Pay Inflation ²	121				
DOT HQ Rent	9				
Subtotal, Adjustments to Base					782
Program Changes					
Seaway Asset Renewal Program (Year Two) ³	(1,300)				
Subtotal, Program Changes					(1,300)
FY 2010 Request (69x4089)			157		\$33,224

¹ The SLSDC Fund (69x4089) in FY 2010 is proposed to include \$32,324,000 in an appropriation from the Harbor Maintenance Trust Fund (69-8003) and \$900,000 in estimated SLSDC 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 Non-pay inflation increases include \$39,000 for agency operations and \$82,000 for the Seaway Asset Renewal Program (ARP).

³ The FY 2010 budget request includes a Year Two ARP amount of \$16,235,000, as highlighted in the *Seaway ARP Capital Investment Plan* included in the FY 2009 budget request, which is \$1.3 million less than the FY 2009 enacted level.

**DETAILED JUSTIFICATION
PROGRAM ACTIVITY NO. 1 – AGENCY OPERATIONS**

Agency Operations	FY 2010 Request: \$16,907,000
Overview:	
<p>Activities financed by this program include functions described below. Corporation objectives are to continue to operate the system in a safe, secure, reliable, and efficient manner while interfacing with a multitude of diverse interests that share the common goal of expanding commerce on the Great Lakes St. Lawrence Seaway System.</p> <p><u>Lock Operations</u> – 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).</p> <p><u>Maintenance, Marine, and Engineering</u> – 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.</p> <p><u>Trade Development</u> – 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.</p> <p><u>Security and Infrastructure Protection</u> – 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, New York, and its employees.</p> <p><u>Administrative</u> – 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.</p>	
FY 2009 Base:	
<p>The FY 2009 enacted level for these operations and maintenance activities is \$16.2 million from the SLSDC’s revolving fund account (69x4089).</p>	

Anticipated FY 2009 Accomplishments:

In FY 2009, the SLSDC will:

- Provide 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 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, Quebec, prior to entering U.S. waters and work closely with the Canadian SLSMC on full implementation of existing ballast water measures.
- Utilize and enhance AIS/GPS 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 AIS vessel traffic services system.
- Maintain and expand its improved physical security systems and equipment, such as intrusion detection and electronic access control systems.
- Participate in various federal and department-wide activities, including electronic payroll and training, disaster management, and automated staffing.

FY 2010 Budget Request:

The FY 2010 request for agency operations is \$700,000 above the FY 2009 enacted level – all related to baseline increases:

- \$582,000 increase in net personnel compensation and benefits, including the annualization of the FY 2009 Pay Act increase and estimated FY 2010 pay raise increases for general schedule and wage grade employees;
- \$70,000 increase in DOT Working Capital Fund projections;
- \$39,000 increase in non-pay inflationary adjustments; and a
- \$9,000 increase in rent payments for SLSDC Headquarters staff.

In FY 2009, the SLSDC will continue to perform its core programs including lock operations, waterway management and trade development. To maximize its funding for operations and maintenance activities and Asset Renewal Program (ARP) projects and

equipment, the SLSDC constantly works toward attaining its OMB efficiency goal and internal performance measure of lowering agency administrative expenses as a percentage of all operating costs to 25 percent (administrative cost ratio). 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. During FY 2008, the SLSDC's administrative cost percentage was 25 percent.

Administrative expenses include executive management and administration of the Corporation. These programs include legal, policy, civil rights, accounting, procurement, human resources, information technology, and related administrative support services. The SLSDC has implemented a number of activities to achieve the administrative cost ratio goal, including reducing supplies and materials and contractual services, and investigating new technologies to reduce administrative overhead costs (e.g., the Seaway's binational web site has greatly reduced the costs and labor associated with mailing of materials).

The SLSDC's FY 2010 budget request also includes \$272,000 in information technology investments. These initiatives are the Seaway Global Positioning System (GPS) / Automatic Identification System (AIS) project (\$50,000), the SLSDC financial management system (\$50,000), its common IT services provided by the Department (\$164,000 – included in the DOT Working Capital Fund estimates), and Homeland Security Presidential Directive 12 (HSPD-12) activities (\$8,000), as part of the Department's efforts to implement a common identification card with smart card technologies. In addition, the FY 2010 request includes \$650 for the SLSDC's portion of various federal e-Gov initiatives within the Department.

The FY 2010 request will allow Corporation officials to continue its efficient and effective programs and initiatives and to meet its performance goals. The SLSDC will continue to work towards achieving its goal of 99 percent system availability by providing a safe, secure, reliable, and efficient waterway and lock system. A reduction in the Seaway's availability rate could result in commercial users seeking alternative transportation routes and modes to and from North America, negatively affecting Great Lakes St. Lawrence Seaway System economic benefits while increasing road congestion, fuel use, and air emissions.

DETAILED JUSTIFICATION
PROGRAM ACTIVITY NO. 2 – ASSET RENEWAL PROGRAM

Asset Renewal Program	FY 2009 Request: \$16,317,000
<p>Overview:</p> <p>With the passage of the FY 2009 Omnibus Appropriations Act, the SLSDC’s 10-year Asset Renewal Program (ARP) was initiated. Over the next decade, the ARP will focus on improving aging Seaway infrastructure, conducting maintenance dredging, investing in new technologies, purchasing new equipment, and refurbishing old facilities (<i>see Tab 5</i>). The ARP 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.</p> <p>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 is approaching the end of its original “design” life, and without sufficient investment in these perpetual assets, it will become increasingly difficult to maintain the future availability and reliability of the Seaway.</p> <p>The Seaway’s ARP, which began in FY 2009, will 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.</p> <p>The ARP supports the engineering considerations highlighted in the November 2007 binational <i>Great Lakes St. Lawrence Seaway Study</i>. The Study 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.</p> <p>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 underway or planned at the Canadian Seaway locks.</p>	

FY 2009 Base:

The FY 2009 enacted level for ARP projects and equipment is \$17.5 million from the SLSDC's revolving fund account (69x4089).

Anticipated FY 2009 Accomplishments:

In FY 2009, the SLSDC will fund 17 Year One ARP projects. These projects are:

- Project No. 1: Snell Lock - Replace Fendering Downstream Guidewall Extension (\$300,000)
- Project No. 3: Both Locks – Rehabilitate Mooring Buttons, Pins, and Concrete along Guidewalls and Guardwalls (\$250,000)
- Project No. 4: Both Locks – Culvert Valve Machinery – Upgrade to Hydraulic Operation (\$2,000,000)
- Project No. 5: Both Locks – Rehabilitate and Insulate Winter Maintenance Lock Covers (\$250,000)
- Project No. 6: Seaway International Bridge – Perform Structural Rehabilitation and Corrosion Prevention (\$2,000,000)
- Project No. 7: Both Locks – Culvert Valve – Replace with Single Skin Valves (\$600,000)
- Project No. 8: Floating Navigational Aids – Replace (\$60,000)
- Project No. 9: Corporation Equipment – Replace Heavy and Light Equipment, Maintenance Vehicles, and Shop Equipment (\$1,750,000)
- Project No. 10: Both Locks – Upgrade Power Supply Infrastructure from Moses-Saunders Dam to Both Locks and Adjacent Facilities (\$75,000)
- Project No. 11: Fixed Navigational Aids – Rehabilitate (\$100,000)
- Project No. 12: Corporation Equipment – Upgrade/Replace Floating Plant (\$2,000,000)
- Project No. 13: Corporation Facilities – Replace Roofs (\$50,000)
- Project No. 14: Corporation Facilities – Replace Paving and Drainage Infrastructure (\$950,000)
- Project No. 15: Eisenhower Lock – Highway Tunnel – Rehabilitate (\$250,000)
- Project No. 16: Seaway System – Upgrade GPS/AIS/TMS Technologies (\$100,000)
- Project No. 17: Navigation Channels – Dredge U.S. Sectors to Maintain Design Grade and Dispose of Sediments (\$5,000,000)
- Project No. 31: Both Locks – Rehabilitate Upstream Miter Gates (\$1,500,000)

The SLSDC expects to fully obligate the enacted \$17.5 million for the 17 ARP projects prior to September 30. Major ARP lock projects obligated in FY 2009, including culvert valve and miter gate upgrades, will be completed following the 2009 and/or 2010 navigation seasons due to long lead times for ordering parts and equipment.

FY 2010 Budget Request:

For FY 2010, the SLSDC is proposing to fund 20 capital and maintenance infrastructure projects included in Year Two of the ARP at a cost of \$16.3 million. These projects and equipment will address various needs for the two U.S. Seaway locks, the Seaway International Bridge connecting Ontario and New York, operational systems, and Corporation facilities and equipment.

The FY 2010 ARP budget request includes the Year Two base amount of \$16.235 million, as highlighted in the *Seaway ARP Capital Investment Plan* as part of the FY 2009 budget request, plus an additional \$82,000 for non-pay inflation (0.5 percent).

Major ARP projects scheduled for FY 2010 include the continued structural rehabilitation and corrosion prevention of the Seaway International Bridge (\$5.8 million) connecting Ontario and New York, which annually accommodates more than 2.5 million vehicles; major concrete rehabilitation at Eisenhower Lock (\$2 million); and the rehabilitation of the downstream miter gates at the locks (\$1.5 million).

FY 2010 U.S. Seaway Asset Renewal Program (ARP) Projects		
ARP Project Number	Project Name	FY 2010 Estimate
2	Both Locks – Rehabilitate Downstream Miter Gates	\$1,508,000
3	Eisenhower Lock – Rehabilitate Mooring Buttons, Pins, and Concrete along Guidewalls and Guardwalls	251,000
6	Seaway International Bridge – Perform Structural Rehabilitation and Corrosion Prevention	5,773,000
7	Snell Lock – Culvert Valves – Replace with Single Skin Valves	603,000
8	Floating Navigational Aids – Replace	60,000
9	Corporation Equipment – Replace Heavy and Light Equipment, Maintenance Vehicles and Shop Equipment	251,000
10	Both Locks – Upgrade Power Supply Infrastructure from Moses-Saunders Dam to Both Locks and Adjacent Facilities	75,000
11	Fixed Navigational Aids – Rehabilitate	201,000
12	Corporation Equipment – Upgrade/Replace Floating Plant	503,000
14	Corporation Facilities – Replace Paving and Drainage Infrastructure	1,508,000
18	Eisenhower Lock – Vertical Lift Gate – Replace Wire Ropes	503,000

19	Snell Lock – Upgrade Electrical Distribution Equipment	151,000
20	Both Locks – Upgrade Lock Status/Controls	151,000
21	Both Locks – Compressed Air Systems – Upgrade/Replace	1,508,000
22	Both Locks – Install Vessel Self Spotting Equipment	251,000
24	Both Locks – Structural Repair – Grout Leaks in Galleries and Recesses	201,000
25	Corporation Facilities – Upgrade/Replace Fire Alarm/Protection Systems	101,000
26	Corporation Facilities – Upgrade Storage for Lock Spare Parts	201,000
27	Corporation Facilities – Replace Windows and Doors and Repair Building Facades	201,000
29	Eisenhower Lock – Walls, Sills, and Culverts – Rehabilitate Concrete	2,010,000
---	Engineering Design, Construction Inspection, Contracting Support, and Project Management	306,000
ARP Total (20 projects):		\$16,317,000

FY 2010 ARP Project Descriptions:

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.

Project No. 2: Both Locks – Rehabilitate Downstream Miter Gates (Non-Capital Maintenance Project) (\$1,508,000) – This project is to completely rehabilitate the miter gates at the downstream end of both Eisenhower and Snell Locks. It includes replacing worn and/or damaged components including the miter and quoin contact blocks, pintles, gate anchorages and diagonals to insure proper functioning of the miter gates.

Project No. 3: Eisenhower Lock – Rehabilitate Mooring Buttons, Pins and Concrete along Guidewalls and Guardwalls (Non-Capital Maintenance Project) (\$251,000) – This project is to rehabilitate the upstream and downstream approach walls at Eisenhower Lock. These are mass concrete monolithic structures with vessel mooring buttons located behind them for transiting vessels to tie to. Since they were constructed, the concrete lifts/blocks have been dislodged and concrete damaged by vessel impact and the mooring buttons have settled such that they collect water/ice, making them difficult to use. The rehabilitation work would include pinning dislodged lifts, repairing damaged concrete and raising mooring buttons that have settled to improve the serviceability of the approach walls.

Project No. 6: Seaway International Bridge – Perform Structural Rehabilitation and Corrosion Prevention (Non-Capital Maintenance Project) (\$5,773,000) – This project is for rehabilitation of the structural components of the south span of the bridge between Rooseveltown, N.Y., and Cornwall Island, which crosses the Seaway navigation channel. The SLSDC owns 68 percent of the south span of the bridge. This work will stop the corrosion and prevent the need for replacing structural members if they were allowed to corrode.

Project No. 7: Snell Lock – Culvert Valves – Replace with Single Skin Valves (Capital Project) (\$603,000) – This project is for replacing the double skin culvert valves utilized for filling and emptying the locks with single skin valves. Cracking of major structural members have occurred and with the double skin construction, the structural members are not accessible for inspection, blast cleaning and painting. The culvert valves are nearly 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. Depending 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 No. 8: Floating Navigational Aids – Upgrade/Replace (Capital Project) (\$60,000) – 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 No. 9: Corporation Equipment – Replace Heavy and Light Equipment, Maintenance Vehicles and Shop Equipment (Capital Equipment) (\$251,000) – 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, snow plow, backhoe, grader, front end loader and shop equipment such as a lathe, milling machine and drill press.

Project No. 10: Both Locks – Upgrade Power Supply Infrastructure from Moses-Saunders Dam (Non-Capital Maintenance Project) (\$75,000) – This project is for upgrading the infrastructure that supplies power to Eisenhower and Snell Locks. 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 utilize diesel generators, which are expensive to operate, to continue operation of the locks.

Project No. 11: Fixed Navigational Aids – Rehabilitate (Non-Capital Maintenance Project) (\$201,000) – This project is for rehabilitating fixed navigational aids in the Seaway. Many of the structures are nearing 50 years old and are in need of more than routine repairs. Many of these structures have concrete bases which are eroding and cracking. The inspection of these structures was done by divers and the majority of the repairs will require divers and the use of a tug and barge with crane to complete. Failure of a fixed aid would likely make it necessary to replace it which would cost significantly more than repairing the existing structure.

Project No. 12: Corporation Equipment – Upgrade/Replace Floating Plant (Capital Project) (\$503,000) – This is an ongoing program to rehabilitate and/or replace the Corporation's floating plant which is utilized for maintaining the locks and navigation channels. Plans are to purchase a scow to be used for emergency/spot dredging and to purchase a vessel for emergency response activities.

Project No. 14: Corporation Facilities – Replace Paving and Drainage Infrastructure (Capital Project) (\$1,508,000) – This project is for improving the pavement and drainage along lock approach walls, Corporation roadways and public parking and work areas at all Corporation facilities. In Upstate New York, the damage to pavements caused by winter conditions is significant and 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 No. 18: Eisenhower Lock – Vertical Lift Gate – Replace Wire Ropes (Non-Capital Maintenance Project) (\$503,000) – This project is for replacing the wire rope cables that serve to raise and lower the vertical lift gate at Eisenhower Lock. These cables were last replaced in 1979 and are exhibiting some strand breakage and corrosion. The vertical lift gate is an emergency closure designed to hold back the power pool if a miter gate is compromised.

Project No. 19: Snell Lock – Upgrade Electrical Distribution Equipment (Capital Project) (\$151,000) – This project is for upgrading electrical distribution equipment at Snell Lock to insure continued reliability. The majority of this equipment is nearly 50 years old.

Project No. 20: Both Locks – Upgrade Lock Status/Controls (Capital Project) (\$151,000) – This project is for upgrading the lock/equipment status systems and the lock operating controls at both Eisenhower and Snell Locks. At present only the most critical components are monitored and controlled by the new computerized system. Adding control of some of the less critical components and more in depth monitoring of the status of all components will improve the effectiveness of preventive maintenance activities and result in increased reliability.

Project No. 21: Snell Lock – Compressed Air Systems – Upgrade/Replace (Capital Project) (\$1,508,000) – This project is for replacing the compressors and corroded piping at the Snell Lock which provides compressed air for various systems at the locks, for maintenance work and for air curtains and bubblers utilized to control ice in and around the locks during the opening and closing of the navigation seasons. The ability of the existing compressed air systems to provide the required volumes and/or pressures reliably is becoming a problem.

Project No. 22: Both Locks – Install Vessel Self Spotting System (Capital Project) (\$251,000) – 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 Seaway agency has been testing this new technology at one of their locks.

Project No. 24: Both Locks – Structural Repair – Grout Leaks in Galleries and Recesses (Non-Capital Maintenance Project) (\$201,000) – 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 No. 25: Corporation Facilities – Upgrade/Replace Fire Alarm/Protection Systems (Capital Project) (\$101,000) – This project is for replacing antiquated fire alarm and fire protection systems at Corporation facilities.

Project No. 26: Corporation Facilities – Upgrade Storage for Lock Spare Parts (Capital Project) (\$201,000) – This project is for constructing shelters for storage of lock spare parts to prevent them from corroding prior to their use. Many of these items are not stored under cover and/or are stored in old storage sheds that are in need of repair or replacement.

Project No. 27: Corporation Facilities – Replace Windows and Doors and Repair Building Facades (Non-Capital Maintenance Project) (\$201,000) – 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 No. 29: Eisenhower Lock – Walls, Sills and Culverts – Rehabilitate Concrete (Non-Capital Maintenance Project) (\$2,010,000) – 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. It is resurfacing the mass concrete that forms the locks walls, filling and emptying culverts and the gate sills by replacing concrete to depths ranging between approximately 8 inches and 24 inches.

Engineering Design, Construction Inspection, Contracting Personnel and Project Management (Capital Project) (\$306,000) – To accomplish all of the projects listed will require additional engineers to design and/or monitor the work and additional construction inspectors to be hired to monitor and insure the quality of the work. Additional contracting specialists will be needed to handle the increase in contract work and project management specialists for tracking, reporting, and managing projects.

**EXPLANATION OF FUNDING CHANGES
PROGRAM ACTIVITY NO. 1 – AGENCY OPERATIONS**

Operations and Maintenance Activities	\$700,000
Overview:	
Increases to SLSDC general agency operations budget request are entirely baseline adjustments, principally to personnel compensation and benefits.	
Salaries and Benefits:	\$582,000
Net increase includes annualization of FY 2009 Pay Act increase (\$109,000), FY 2010 General Schedule Pay Act increase (\$79,000), FY 2010 SLSDC union wage board pay increase (\$175,000), and employee benefits increase (\$219,000).	
DOT Working Capital Fund:	70,000
Net increase in DOT Working Capital Fund projections.	
Non-Pay Inflationary Increases:	39,000
Net increase for inflation is provided for non-pay object classes (0.5 percent).	
DOT Rent for Washington Headquarters Staff:	9,000
Net increase based on latest estimates from DOT and GSA.	

**EXPLANATION OF FUNDING CHANGES
PROGRAM ACTIVITY NO. 2 – ASSET RENEWAL PROGRAM**

Asset Renewal Plan	(\$1,218,000)
Overview:	
<p>Due to the projected year-to-year fluctuations in the Seaway’s ARP, the FY 2010 estimate to complete 20 projects is \$16.3 million, a decrease of \$1.2 million when compared to the enacted FY 2009 level.</p> <p>The FY 2010 ARP request includes Year Two ARP funding as highlighted in the <i>Seaway ARP Capital Investment Plan</i> as part of the FY 2009 budget request, and adjusted for inflation.</p>	
Seaway Asset Renewal Plan:	(\$1,300,000)
Based on out-year estimates provided in the FY 2009 budget request.	
Non-Pay Inflationary Increases:	\$82,000
Net increase for inflation is provided for non-pay object classes (0.5 percent).	

EXHIBIT III-3

SAINT LAWRENCE SEAWAY DEVELOPMENT CORPORATION ANNUAL PERFORMANCE RESULTS AND TARGETS

The SLSDC integrates performance results into its budget request to demonstrate alignment with the Department of Transportation's Strategic Plan. The agency tracks the following DOT level performance measure to demonstrate program results:

DOT Strategic Objective: Global Connectivity

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

Increase the Efficiency of Freight Movement (<i>Seaway System Availability</i>)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Target:	99.0%	99.0%	99.0%	99.0%	99.0%	99.0%
Actual:	99.7%	99.0%	99.4%	98.8%	---	---

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.

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

Identification code 69-4089-0-3-403	2008 ACTUAL	2009 ENACTED	2010 REQUEST
Obligations by program activity:			
00.01 Operations and maintenance	17,168	25,382	27,514
00.02 Replacements and improvements	1,050	8,360	5,710
10.00 Total new obligations	18,218	33,742	33,224
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	11,009	11,439	11,439
21.40 Unobligated balance carried forward, start of year	14,209	14,639	14,639
22.00 New budget authority (gross)	18,614	33,742	33,224
22.10 Resources available from recoveries of prior year obligations	33	...	...
23.90 Total budgetary resources available for obligation	32,856	48,381	47,863
23.95 Total new obligations (-)	(18,218)	(33,742)	(33,224)
Unobligated balance carried forward, end of year:			
24.47 Authority to borrow	3,200	3,200	3,200
24.90 Fund balance	11,439	11,439	11,439
24.40 Unobligated balance carried forward, end of year	14,639	14,639	14,639
Net budget authority (gross), detail:			
Mandatory: Spending authority from offsetting collections:			
69.00 Offsetting collections (cash)	18,627	33,742	33,224
69.10 Change in uncollected payments from Federal sources	(13)	...	...
69.90 Spending authority from offsetting collections (total)	18,614	33,742	33,224
Change in obligated balance:			
72.40 Obligated balance, start of year	5,400	6,891	6,891
73.10 Total new obligations	18,218	33,742	33,224
73.20 Total outlays (gross) (-)	(16,707)	(33,742)	(33,224)
73.45 Recoveries of prior year obligations (-)	(33)	...	...
74.00 Change in uncollected payments from Federal sources	13	...	...
74.40 Obligated balance, end of year	6,891	6,891	6,891
Outlays (gross), detail:			
86.97 Outlays from new mandatory authority	16,707	33,742	33,224
Offsets:			
Against gross budget authority and outlays:			
Offsetting collections (cash) from:			
88.00 Federal sources	17,392	31,842	32,324
88.40 Non-Federal sources	1,235	1,900	900
88.90 Total offsetting collections (cash)	18,627	33,742	33,224
Against gross budget authority only:			
88.95 Change in uncollected payments from Federal sources	(13)	...	...
Net budget authority and outlays:			
89.00 Budget authority (net)	...	...	...
90.00 Outlays (net)	(1,920)	...	...

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

Identification code 69-4089-0-3-403	2007 ACTUAL	2008 ACTUAL
Assets:		
Federal assets:		
1101 Fund balance with Treasury	5,255	7,175
1106 Receivables, net	...	...
1107 Advances and prepayments	...	...
Non-Federal assets:		
1201 Investments in non-Federal securities	7	7
1206 Receivables, net	115	108
1207 Advances and prepayments	...	...
Other Federal assets:		
1801 Cash and other monetary assets	11,999	12,018
1803 Property, plant and equipment, net	74,579	73,181
1901 Other assets	3,484	3,707
1999 Total assets	95,439	96,196
Liabilities:		
Federal liabilities:		
2101 Accounts payable	...	...
Non-Federal liabilities:		
2201 Accounts payable	2,577	2,790
2206 Pension and other actuarial liabilities	3,478	3,705
2207 Other	...	...
2999 Total liabilities	6,055	6,495
Net Position:		
3200 Invested capital	89,617	88,220
3300 Cumulative results of operations	(233)	1,481
3999 Total net position	89,384	89,701
4999 Total liabilities and net position	95,439	96,196

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

Identification code 69-4089-0-3-403	2008 ACTUAL	2009 ENACTED	2010 REQUEST
Personnel compensation:			
11.1 Full-time permanent	9,207	9,924	10,287
11.3 Other than full-time permanent	95	264	264
11.5 Other personnel compensation	570	638	638
11.9 Total personnel compensation	9,872	10,826	11,189
12.1 Civilian personnel benefits	2,944	3,262	3,481
Personnel compensation and benefits	12,816	14,088	14,670
21.0 Travel and transportation of persons	184	164	166
22.0 Transportation of things	7	5	5
23.1 Rental payments to GSA	263	243	252
23.2 Rental payments to others	3	8	8
23.3 Communications, utilities, and miscellaneous	171	250	251
23.0 Total rent, communications, and utilities	437	501	511
24.0 Printing and reproduction	25	5	5
25.1 Advisory and assistance services	24	-	-
25.2 Other services	920	324	327
25.3 Purchases of goods/services from Government accounts	603	423	496
25.4 Operation and maintenance of facilities (includes ARP)	1,242	9,390	10,967
25.6 Medical care	2	12	12
25.7 Operation and maintenance of equipment	80	27	27
25.0 Total other contractual services	2,870	10,176	11,829
26.0 Supplies and materials	988	443	444
31.0 Equipment (includes ARP)	809	1,750	251
32.0 Land and structures (includes ARP)	82	6,610	5,343
Total other-than-personnel	5,402	19,654	18,554
99.9 Total obligations	18,218	33,742	33,224

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

Identification code 69-4089-0-3-403	2008 ACTUAL	2009 ENACTED	2010 REQUEST
Operations and Maintenance:			
1. Lock and Marine Operations	3,572	3,590	3,680
2. Maintenance and Engineering	5,231	13,385	15,217
3. General and Development	4,327	4,349	4,458
4. Administrative	4,038	4,058	4,159
Total Operations and Maintenance	17,168	25,382	27,514
Replacements and Improvements:			
1. Equipment	566	1,750	251
2. Capital Projects	484	6,610	5,343
Total Replacements and Improvements	1,050	8,360	5,594
Total Obligations	18,218	33,742	33,108
Authorized Positions by Activity:			
1. Lock and Marine Operations	46	46	46
2. Maintenance and Engineering	63	63	63
3. General and Development	16	16	16
4. Administrative	32	32	32
Total Positions	157	157	157

**DEPARTMENT OF TRANSPORTATION
 SAINT LAWRENCE SEAWAY DEVELOPMENT CORPORATION
 Summary of Travel and Transportation of Persons
 (In thousands of dollars)**

Identification code 69-4089-0-3-403	2008 ACTUAL	2009 ENACTED	2010 REQUEST
Field Offices:			
Business travel			
Operations	24	21	22
Administrative	0	0	0
Travel associated with training	26	23	23
Travel to and from Washington, D.C.	4	4	4
Travel to and from Massena, N.Y.	1	0	0
Foreign travel	0	0	0
Canadian travel	14	12	12
Subtotal	69	60	61
DC Office:			
Business travel			
Operations	11	10	10
Administrative	22	20	20
Travel associated with training	4	4	4
Travel to and from Washington, D.C.	1	1	1
Travel to and from Massena, N.Y.	22	20	20
Foreign travel	12	11	11
Canadian travel	43	38	38
Subtotal	115	104	104
Grand Total	184	164	165

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

Identification code 69-4089-0-3-403	2008 ACTUAL	2009 ENACTED	2010 REQUEST
Total compensable work years:			
5001 Full-time equivalent employment	139	157	157
5005 Full-time equivalent of overtime and holiday hours	4	6	6

SAINT LAWRENCE SEAWAY DEVELOPMENT CORPORATION

Summary of Changes

FY 2010 Request vs. FY 2009 Enacted

(In thousands of dollars)

AGENCY OPERATIONS

Annualization of FY 2009 Pay Act Increase \$ 109

This annualizes the January 2009 pay act increase (3.9 percent) by providing funding for the fourth quarter.

FY 2010 Pay Act Increase 79

This will provide three-quarter year funding for the proposed pay act increase, estimated at 2.0 percent, effective in January 2010.

FY 2010 Wage Board Increase 175

This will provide full year funding for SLSDC wage grade personnel, effective in October 2009. Estimate based on previous annual pay rate established by the most current Collective Bargaining Agreement (CBA), dated 5/24/2007. SLSDC management and union will be negotiating the new CBA in September 2009.

Increase in Personnel Benefits 219

This increase is for personnel-related benefits provided to employees (Health, Workers' Compensation, TSP, FERS), based on OMB guidance.

DOT Working Capital Fund 70

Based on estimates provided by OST.

DOT Rent for Washington Headquarters Staff 9

Based on estimates provided by OST and GSA.

Non-Pay Inflationary Increases 39

Net increases for inflation are provided for non-pay object classes (0.5 percent).

Total of SLSDC Agency Operations Changes \$ 700

ASSET RENEWAL PROGRAM

Seaway Asset Renewal Plan \$ (1,300)

Based on out-year estimates provided in the FY 2009 budget request.

Non-Pay Inflationary Increases 82

Net increases for inflation are provided for non-pay object classes (0.5 percent).

Total of SLSDC Asset Renewal Program Changes \$ (1,218)

TOTAL CHANGES (FY 2010 Request vs. FY 2009 Enacted) (69x4089) \$ (518)

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**Budget Request by
Performance Goal**

Summary Table

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EXHIBIT IV
FY 2010 PROGRAM BUDGET BY STRATEGIC OBJECTIVE AND PERFORMANCE GOAL
Saint Lawrence Seaway Development Corporation
(In thousands of dollars)

<u>STRATEGIC & PERFORMANCE GOALS</u> <u>BY PROGRAM ACTIVITIES</u>	<u>FY 2008</u> <u>ACTUAL</u>	<u>FY 2009</u> <u>ENACTED</u>	<u>FY 2010</u> <u>REQUEST</u>
1. GLOBAL CONNECTIVITY			
A. <u>More Efficient Movement of Cargo</u>			
(1) Percent of days in the shipping season that the U.S. portion of the St. Lawrence Seaway is available	\$18,022	\$33,402	\$32,819
Performance Goal Subtotal:	\$18,022	\$33,402	\$32,819
B. <u>Expanded Opportunities</u>			
(1) Percent share of total dollar value of DOT direct contracts awarded to women-owned businesses (<i>non-add -- value of contracts in FY 2008</i>)	(\$1,217)	(\$1,217)	(\$1,217)
(2) Percent share of total dollar value of DOT direct contracts awarded to small disadvantaged businesses (<i>non-add -- value of contracts in FY 2008</i>)	(\$95)	(\$95)	(\$95)
Performance Goal Subtotal:	(\$1,312)	(\$1,312)	(\$1,312)
Total - Global Connectivity Strategic Goal:	\$18,022	\$33,402	\$32,819
2. SECURITY			
A. <u>Preparedness</u>			
(1) Percent of DOT personnel with emergency management responsibilities participating in exercises (<i>draft measure</i>)	\$210	\$280	\$285
Performance Goal Subtotal:	\$210	\$280	\$285
Total - Security Strategic Goal:	\$210	\$280	\$285
3. ORGANIZATIONAL EXCELLENCE			
A. <u>Fulfill the President's Management Agenda</u>			
(1) Achieve financial performance goals, including unqualified annual audit	\$60	\$60	\$120
Performance Goal Subtotal:	\$60	\$60	\$120
Total - Organizational Excellence Strategic Goal:	\$60	\$60	\$120
GRAND TOTAL (SLSDC Fund -- 69x4089)¹:	<u>\$18,292</u>	<u>\$33,742</u>	<u>\$33,224</u>

¹ The SLSDC Fund (69x4089) for FY 2010 is proposed to include \$32,324,000 in an appropriation from the Harbor Maintenance Trust Fund (69-8003) and \$900,000 in estimated SLSDC 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.

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Global Connectivity

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GLOBAL CONNECTIVITY
Performance Goal: Increase the Efficiency of Freight Movement

The SLSDC FY 2010 funding request contributes to the DOT Global Connectivity strategic goal and to the performance outcome goals of: (1) increasing the efficiency of freight movement; and (2) expanding opportunities for women-owned and disadvantaged businesses. In addition, the request includes funding for the continuation of the SLSDC’s Asset Renewal Program (ARP) to address the U.S. Seaway infrastructure needs (*see Tab 5*).

Operated and maintained by the SLSDC and the Canadian St. Lawrence Seaway Management Corporation, 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), 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, maritime commerce on the Great Lakes Seaway System impacts 150,000 U.S. jobs, \$12 million per day in wages, \$9 million per day in business revenues, and provides approximately \$3.6 billion in annual transportation cost savings compared to the next least expensive mode of transportation.

Commercial transportation on the Great Lakes St. Lawrence Seaway System serves as competition to other maritime trade routes as well as other transportation modes, which benefits the nation in lower consumer prices of finished goods and raw materials, and helps to reduce roadway and railway congestion – each Seaway-size vessel carries roughly 25,000 metric tons, the equivalent of 870 semi-trucks.

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 (late March to late December). During FY 2008, the SLSDC reported a 98.8 percent system availability rate for the U.S. portion of the Seaway.

Percentage of days in the shipping season that the U.S. portion of the St. Lawrence Seaway System is available. (FY)						
Target:	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>
	99.0	99.0	99.0	99.0	99.0	99.0
Actual:	99.7	99.0	99.4	98.8		

The SLSDC’s FY 2010 appropriations request for Global Connectivity is \$32.8 million, a decrease of \$583,000 compared to the FY 2009 enacted level. This request would fund day-to-day agency operations of the agency required for continued commercial transportation on the St. Lawrence Seaway, including personnel compensation and benefits for 156 FTEs, and 20 ARP projects. Within the net decrease, changes include an increase of \$617,000 to fund baseline estimated costs for Global Connectivity (pay, benefits, inflation, and DOT Working Capital Fund increases), and a decrease of \$1.2 million in ARP. The FY 2010 ARP request includes Year Two ARP funding as highlighted in the *Seaway ARP Capital Investment Plan* as part of the FY 2009 budget request, and adjusted for inflation.

Major ARP projects scheduled for FY 2010 include the continued structural rehabilitation and corrosion prevention of the Seaway International Bridge (\$5.8 million) connecting Ontario and New York, which annually accommodates more than 2.5 million vehicles; major concrete rehabilitation at Eisenhower Lock (\$2 million); and the rehabilitation of the downstream miter gates at the locks (\$1.5 million).

The ARP, which was started in FY 2009, supports the engineering considerations highlighted in the November 2007 binational *Great Lakes St. Lawrence Seaway Study*. The Study 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. In addition, many of the lock-related ARP improvements will parallel activities underway at the Canadian Seaway locks.

SAINT LAWRENCE SEAWAY DEVELOPMENT CORPORATION

SLSDC Fund (69x4089) ¹

(in thousands of dollars)

STRATEGIC & PERFORMANCE GOALS BY PROGRAM ACTIVITIES	<u>FY 2008 ACTUAL</u>	<u>FY 2009 ENACTED</u>	<u>FY 2010 REQUEST</u>
A. <u>Increase the Efficiency of Freight Movement</u>			
(1) Percent of days in the shipping season that the U.S. portion of the St. Lawrence Seaway is available	\$18,022	\$33,402	\$32,819
Performance Goal Subtotal:	<u>\$18,022</u>	<u>\$33,402</u>	<u>\$32,819</u>
B. <u>Expand Business Opportunities</u>			
(1) Percent of total dollar value of DOT direct contracts awarded to women-owned businesses (<i>non-add – value of contracts</i>)	[\$1,217]	[\$1,217]	[\$1,217]
(2) Percent of total dollar value of DOT direct contracts awarded to small disadvantaged businesses (<i>non-add – value of contracts</i>)	[\$95]	[\$95]	[\$95]
Performance Goal Subtotal:	<u>[\$1,312]</u>	<u>[\$1,312]</u>	<u>[\$1,312]</u>
Total – Global Connectivity Goal:	<u>\$18,022</u>	<u>\$33,402</u>	<u>\$32,819</u>
FTE (this segment):	156	156	156

¹ The SLSDC Fund (69x4089) includes appropriations from the Harbor Maintenance Trust Fund (69-8003) and SLSDC non-federal revenues.

PERFORMANCE ISSUE

All SLSDC programs and activities related to the DOT Global Connectivity performance measure are focused on meeting the 99 percent or better goal for U.S. Seaway sector availability. The SLSDC is directly responsible for ensuring the safe, efficient, and secure passage of commercial vessels through the binational St. Lawrence Seaway and it has maintained a 99 percent availability rate throughout the waterway's history, beginning in 1959.

During FY 2008, the availability of the U.S. sectors of the Seaway, including the two U.S. locks maintained and operated by the SLSDC, was 98.9 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 2008, there were 11 hours, 37 minutes of delays, related to lock equipment malfunctioning incidents. These delays represented approximately two-tenths of one percent of the total navigation time during FY 2008.

ANTICIPATED FY 2009 ACCOMPLISHMENTS

The FY 2009 enacted level of \$33.4 million for Global Connectivity programs will allow the SLSDC to:

- (1) Operate and maintain 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 effective lock operations and waterway management.
- (2) Start the 10-year, 50-project ARP to address the various replacement and improvement 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 will fund 17 ARP projects totaling \$17.5 million. Major projects include maintenance dredging (\$5 million), structural rehabilitation at the Seaway International Bridge (\$2 million), and lock culvert valve upgrades to hydraulic operations (\$2 million).
- (3) Continue close coordination and involvement with the Canadian St. Lawrence Seaway Management Corporation 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, research and development of lockage and transit-related technologies; invasive species activities affecting the Great Lakes Seaway System; and binational trade development initiatives including the binational web site, Highway H₂O marketing program, and Short Sea Shipping activities.

FY 2010 PERFORMANCE BUDGET REQUEST

The SLSDC's FY 2010 request of \$32.8 million for Global Connectivity includes all SLSDC operational expenses (except for security and financial management-related costs), and \$16.3 million in funding for 20 projects proposed in the SLSDC's ARP. None of these 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.

FY 2010 U.S. Seaway Asset Renewal Program (ARP) Projects

ARP Project Number	Project Name	FY 2010 Estimate
2	Both Locks – Rehabilitate Downstream Miter Gates	\$1,508,000
3	Eisenhower Lock – Rehabilitate Mooring Buttons, Pins, and Concrete along Guidewalls and Guardwalls	251,000
6	Seaway International Bridge – Perform Structural Rehabilitation and Corrosion Prevention	5,773,000
7	Snell Lock – Culvert Valves – Replace with Single Skin Valves	603,000
8	Floating Navigational Aids – Replace	60,000
9	Corporation Equipment – Replace Heavy and Light Equipment, Maintenance Vehicles and Shop Equipment	251,000
10	Both Locks – Upgrade Power Supply Infrastructure from Moses-Saunders Dam to Both Locks and Adjacent Facilities	75,000
11	Fixed Navigational Aids – Rehabilitate	201,000
12	Corporation Equipment – Upgrade/Replace Floating Plant	503,000
14	Corporation Facilities – Replace Paving and Drainage Infrastructure	1,508,000
18	Eisenhower Lock – Vertical Lift Gate – Replace Wire Ropes	503,000
19	Snell Lock – Upgrade Electrical Distribution Equipment	151,000
20	Both Locks – Upgrade Lock Status/Controls	151,000
21	Both Locks – Compressed Air Systems – Upgrade/Replace	1,508,000
22	Both Locks – Install Vessel Self Spotting Equipment	251,000
24	Both Locks – Structural Repair – Grout Leaks in Galleries and Recesses	201,000
25	Corporation Facilities – Upgrade/Replace Fire Alarm/Protection Systems	101,000
26	Corporation Facilities – Upgrade Storage for Lock Spare Parts	201,000
27	Corporation Facilities – Replace Windows and Doors and Repair Building Facades	201,000
29	Eisenhower Lock – Walls, Sills, and Culverts – Rehabilitate Concrete	2,010,000
---	Engineering Design, Construction Inspection, Contracting Support, and Project Management	306,000
ARP Total (20 projects):		\$16,317,000

FY 2010 ARP Project Descriptions:

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.

Project No. 2: Both Locks – Rehabilitate Downstream Miter Gates (Non-Capital Maintenance Project) (\$1,508,000) – This project is to completely rehabilitate the miter gates at the downstream end of both Eisenhower and Snell Locks. It includes replacing worn and/or damaged components including the miter and quoin contact blocks, pintles, gate anchorages and diagonals to insure proper functioning of the miter gates.

Project No. 3: Eisenhower Lock – Rehabilitate Mooring Buttons, Pins and Concrete along Guidewalls and Guardwalls (Non-Capital Maintenance Project) (\$251,000) – This project is to rehabilitate the upstream and downstream approach walls at Eisenhower Lock. These are mass concrete monolithic structures with vessel mooring buttons located behind them for transiting vessels to tie to. Since they were constructed, the concrete lifts/blocks have been dislodged and concrete damaged by vessel impact and the mooring buttons have settled such that they collect water/ice, making them difficult to use. The rehabilitation work would include pinning dislodged lifts, repairing damaged concrete and raising mooring buttons that have settled to improve the serviceability of the approach walls.

Project No. 6: Seaway International Bridge – Perform Structural Rehabilitation and Corrosion Prevention (Non-Capital Maintenance Project) (\$5,773,000) – This project is for rehabilitation of the structural components of the south span of the bridge between Rooseveltown, N.Y., and Cornwall Island, which crosses the Seaway navigation channel. The SLSDC owns 68 percent of the south span of the bridge. This work will stop the corrosion and prevent the need for replacing structural members if they were allowed to continue to corrode.

Project No. 7: Snell Lock – Culvert Valves – Replace with Single Skin Valves (Capital Project) (\$603,000) – This project is for replacing the double skin culvert valves utilized for filling and emptying the locks with single skin valves. Cracking of major structural members have occurred and with the double skin construction, the structural members are not accessible for inspection, blast cleaning and painting. The culvert valves are nearly 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. Depending 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 No. 8: Floating Navigational Aids – Upgrade/Replace (Capital Project) (\$60,000) – 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 No. 9: Corporation Equipment – Replace Heavy and Light Equipment, Maintenance Vehicles and Shop Equipment (Capital Equipment) (\$251,000) – 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, snow plow, backhoe, grader, front end loader and shop equipment such as a lathe, milling machine and drill press.

Project No. 10: Both Locks – Upgrade Power Supply Infrastructure from Moses-Saunders Dam (Non-Capital Maintenance Project) (\$75,000) – This project is for upgrading the infrastructure that supplies power to Eisenhower and Snell Locks. 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 utilize diesel generators, which are expensive to operate, to continue operation of the locks.

Project No. 11: Fixed Navigational Aids – Rehabilitate (Non-Capital Maintenance Project) (\$201,000) – This project is for rehabilitating fixed navigational aids in the Seaway. Many of the structures are nearing 50 years old and are in need of more than routine repairs. Many of these structures have concrete bases which are eroding and cracking. The inspection of these structures was done by divers and the majority of the repairs will require divers and the use of a tug and barge with crane to complete. Failure of a fixed aid would likely make it necessary to replace it which would cost significantly more than repairing the existing structure.

Project No. 12: Corporation Equipment – Upgrade/Replace Floating Plant (Capital Project) (\$503,000) – This is an ongoing program to rehabilitate and/or replace the Corporation's floating plant which is utilized for maintaining the locks and navigation channels. Plans are to purchase a scow to be used for emergency/spot dredging and to purchase a vessel for emergency response activities.

Project No. 14: Corporation Facilities – Replace Paving and Drainage Infrastructure (Capital Project) (\$1,508,000) – This project is for improving the pavement and drainage along lock approach walls, Corporation roadways and public parking and work areas at all Corporation facilities. In Upstate New York, the damage to pavements caused by winter conditions is significant and 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 No. 18: Eisenhower Lock – Vertical Lift Gate – Replace Wire Ropes (Non-Capital Maintenance Project) (\$503,000) – This project is for replacing the wire rope cables that serve to raise and lower the vertical lift gate at Eisenhower Lock. These cables were last replaced in 1979 and are exhibiting some strand breakage and corrosion. The vertical lift gate is an emergency closure designed to hold back the power pool if a miter gate is compromised.

Project No. 19: Snell Lock – Upgrade Electrical Distribution Equipment (Capital Project) (\$151,000) – This project is for upgrading electrical distribution equipment at Snell Lock to insure continued reliability. The majority of this equipment is nearly 50 years old.

Project No. 20: Both Locks – Upgrade Lock Status/Controls (Capital Project) (\$151,000) – This project is for upgrading the lock/equipment status systems and the lock operating controls at both Eisenhower and Snell Locks. At present only the most critical components are monitored and controlled by the new computerized system. Adding control of some of the less critical components and more in depth monitoring of the status of all components will improve the effectiveness of preventive maintenance activities and result in increased reliability.

Project No. 21: Snell Lock – Compressed Air Systems – Upgrade/Replace (Capital Project) (\$1,508,000) – This project is for replacing the compressors and corroded piping at the Snell Lock which provides compressed air for various systems at the locks, for maintenance work and for air curtains and bubblers utilized to control ice in and around the locks during the opening and closing of the navigation seasons. The ability of the existing compressed air systems to provide the required volumes and/or pressures reliably is becoming a problem.

Project No. 22: Both Locks – Install Vessel Self Spotting System (Capital Project) (\$251,000) – 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 Seaway agency has been testing this new technology at one of their locks.

Project No. 24: Both Locks – Structural Repair – Grout Leaks in Galleries and Recesses (Non-Capital Maintenance Project) (\$201,000) – 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 No. 25: Corporation Facilities – Upgrade/Replace Fire Alarm/Protection Systems (Capital Project) (\$101,000) – This project is for replacing antiquated fire alarm and fire protection systems at Corporation facilities.

Project No. 26: Corporation Facilities – Upgrade Storage for Lock Spare Parts (Capital Project) (\$201,000) – This project is for constructing shelters for storage of lock spare parts to prevent them from corroding prior to their use. Many of these items are not stored under cover and/or are stored in old storage sheds that are in need of repair or replacement.

Project No. 27: Corporation Facilities – Replace Windows and Doors and Repair Building Facades (Non-Capital Maintenance Project) (\$201,000) – 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 No. 29: Eisenhower Lock – Walls, Sills and Culverts – Rehabilitate Concrete (Non-Capital Maintenance Project) (\$2,010,000) – 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. It is resurfacing the mass concrete that forms the locks walls, filling and emptying culverts and the gate sills by replacing concrete to depths ranging between approximately 8 inches and 24 inches.

Engineering Design, Construction Inspection, Contracting Personnel and Project Management (Capital Project) (\$306,000) – To accomplish all of the projects listed will require additional engineers to design and/or monitor the work and additional construction inspectors to be hired to monitor and insure the quality of the work. Additional contracting specialists will be needed to handle the increase in contract work and project management specialists for tracking, reporting, and managing projects.

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 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 to 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 of more than \$24 million.

To maximize its existing funding levels for Global Connectivity, the SLSDC constantly works toward attaining its OMB efficiency goal and internal performance measure of lowering agency administrative expenses as a percentage of all operating costs to 25 percent (administrative cost ratio). 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 2008, the SLSDC’s administrative cost percentage was 25 percent.

The SLSDC uses this efficiency measure to ensure that core mission expenses are given priority over administrative costs, whenever possible. As the SLSDC operates and manages an infrastructure that is almost 50 years old, it is even more critical that the SLSDC focus its funding priorities on asset renewal and general O&M activities and programs.

The Administrator and SLSDC senior staff are provided with detailed monthly and “ad hoc” expenditure reports that detail various financial goals, including the administrative cost ratio. The goal has aided the SLSDC’s leadership in remaining focused on core mission-related projects, programs, and expenses, especially during periods of budget constraints.

Administrative expenses include executive management and administration of the Corporation. These programs include legal, policy, civil rights, accounting, procurement, human resources, information technology, and related administrative support services. The SLSDC has implemented a number of activities to achieve the administrative cost ratio goal, including reducing supplies and materials and contractual services, and investigating new technologies to reduce administrative overhead costs (e.g., the Seaway’s binational web site has greatly reduced the costs and labor associated with mailing of materials).

SLSDC senior officials with Global Connectivity-related responsibilities and activities are:

Administrator – Collister Johnson, Jr.
Deputy Administrator – Craig Middlebrook
Associate Administrator for Seaway Operations – Sal Pisani
Deputy Associate Administrator for Seaway Operations – Carol Fenton
Chief of Staff – Anita Blackman
Chief Counsel – Carrie Mann Lavigne
Chief Financial Officer (*Acting*) – Marsha Sienkiewicz
Director, Office of Budget and Programs – Kevin O’Malley
Director, Office of Congressional and Public Relations – Nancy Alcalde
Director, Office of Engineering and Maintenance – Tom Lavigne
Director, Office of Lock Operations and Marine Services – Lori Curran
Director, Office of Trade Development – Rebecca McGill

The SLSDC will continue to work towards achieving its goal of 99 percent system availability by providing a safe, secure, reliable, and efficient waterway and lock system through efficient lock operations and waterway management. To modernize the St. Lawrence Seaway to meet the reliability challenges of an aging infrastructure, it is vital to continue the long-term and systematic capital investment program in the U.S. Seaway assets.

The St. Lawrence Seaway is expected to become an even more important commercial transportation route over the next decade as the U.S. and Canadian governments seek to ease other modal congestion, especially along North America’s East and West Coasts and Midwest region. Over the past few years, the St. Lawrence Seaway has enjoyed significant growth in new business as the waterway has become a viable alternative for shippers looking to avoid highway and railway congestion.

In addition, several new shipping services have been proposed for the Great Lakes Seaway System that would move containers around the Great Lakes Seaway System region on “freight ferries”. The development of port and terminal infrastructure in Nova Scotia is expected to attract significant waterborne container trade for North America in the coming decades, especially from Asian markets using the Suez Canal. Currently, there are seven U.S. Great Lakes Seaway System ports that are looking to become distribution points for container cargo movements out of Nova Scotia.

As congestion-related initiatives such as Short Sea Shipping continue to develop, the St. Lawrence Seaway will further improve its position as a competitive alternative for shipments to and from the Midwest region of North America. A reduction in the Seaway’s availability rate, especially due to inoperable infrastructure, could result in commercial users seeking alternative transportation routes and modes to and from North America, negatively affecting Seaway System economic benefits.

Security, Preparedness and Response

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SECURITY, PREPAREDNESS AND RESPONSE
Performance Goal: Expert Transportation Sector Intelligence

This funding request supplements the DOT Security, Preparedness and Response strategic goal and the performance measure of preparedness for response to emergencies affecting the transportation sector currently under development.

The SLSDC continues performing its security program focused on improving its readiness in the event of a security-related event and protecting the U.S. sections of the St. Lawrence Seaway, including the two U.S. locks in Massena, N.Y., and its employees. A shutdown, due to a security-related event or a lock malfunction to any one of the Seaway's 15 U.S. and Canadian locks between Montreal and Lake Erie, would stop operations in the entire Seaway System, which serves as a critical transportation link to and from the agricultural and industrial heartland of North America. The economic impact of a Seaway shutdown would be detrimental to the waterway's core customer base and harm the binational waterway's reputation as a safe and reliable transportation route. An independent 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.

DOT has classified the SLSDC's principal physical infrastructure, the two U.S. Seaway locks, as critical to the Nation's transportation system. The SLSDC has managed an internal security program in its Massena offices since the 1980s. However, the events of September 11, 2001, heightened the awareness of possible terrorist attacks on transportation systems, including the St. Lawrence Seaway and its lock system.

The resources requested to achieve this goal are:

SAINT LAWRENCE SEAWAY DEVELOPMENT CORPORATION
SLSDC Fund (69x4089) ¹
(in thousands of dollars)

STRATEGIC & PERFORMANCE GOALS BY PROGRAM ACTIVITIES	FY 2008 ACTUAL	FY 2009 ENACTED	FY 2010 REQUEST
A. <u>Expert Transportation Sector Intelligence</u>			
(1) Preparedness for response to emergencies affecting the transportation sector (<i>draft measure</i>)	\$210	\$280	\$285
Performance Goal Subtotal:	<u>\$210</u>	<u>\$280</u>	<u>\$285</u>
Total – Security, Preparedness and Response Goal:	<u>\$210</u>	<u>\$280</u>	<u>\$285</u>
FTE (this segment):	1	1	1

¹ The SLSDC Fund (69x4089) includes appropriations from the Harbor Maintenance Trust Fund (69-8003) and SLSDC non-federal revenues.

PERFORMANCE ISSUE

The SLSDC's security program represents a critical component to ensuring that the binational St. Lawrence Seaway continues to operate efficiently while remaining open for commerce. A shutdown, due to a security-related event or any type of lock malfunction or failure, to any one of the Seaway's 15 U.S. and Canadian locks between Montreal and Lake Erie would stop operations through the St. Lawrence Seaway System and severely disrupt international traffic throughout the entire Great Lakes. The Great Lakes St. Lawrence Seaway System serves as a critical transportation link to and from the agricultural and industrial heartland of North America. The economic impact of a Seaway shutdown would be detrimental to the waterway's core customer base and harm the binational waterway's reputation as a safe and reliable transportation route.

Following the September 11, 2001 terrorist attacks, the SLSDC immediately increased its level of security along its portion of the St. Lawrence Seaway and coordinated its activities with various law enforcement and security-related agencies. The SLSDC already maintained close relationships with federal, state, local, and Canadian agencies involved in law enforcement and emergency issues. Those relationships have become closer and additional ties have been formed with the Transportation Security Administration and the Department of Homeland Security.

ANTICIPATED FY 2009 ACCOMPLISHMENTS

The FY 2009 enacted level of \$280,000 will allow the SLSDC to continue its post-September 11 security program to ensure that SLSDC workplace assets, including the two U.S. Seaway locks, and its employees are protected. The FY 2009 funding will allow the SLSDC to:

- (1) Continue to perform its security-related activities, including participating on various security working groups, coordinating security policies with U.S. and Canadian agencies, and ensuring that off-site COOP locations are in a "ready state" in the event of activation.
- (2) Improve its physical security systems and equipment, such as intrusion detection and electronic access control systems.
- (3) Continue to implement Homeland Security Presidential Directive 12 (HSPD-12) requirements based on federal and departmental guidance and timelines.
- (4) Fund personnel compensation and benefits for its one FTE assigned to security responsibilities.
- (5) Provide temporary security guards at the Eisenhower Lock Visitors' Center during the summer months.

In addition, the SLSDC will continue to work cooperatively with security and intelligence officials at both the Departments of Transportation and Homeland Security to ensure that the St. Lawrence Seaway infrastructure is protected to the maximum extent possible. The SLSDC's

lock infrastructure has been recognized as critical by the Department of Transportation. The SLSDC ensures the infrastructure's physical security, conducts vessel inspections on foreign flag vessels before they enter into U.S. waters, and employs GPS-based vessel tracking technologies to increase both efficiency and security while carrying out its responsibility of controlling vessel traffic over approximately 450 nautical miles. The SLSDC will continue to be an active participant in federal, DOT, and New York State tests and exercises.

FY 2010 PERFORMANCE BUDGET REQUEST

The SLSDC's FY 2010 request level of \$285,000 for security activities includes all SLSDC expenses specifically related to its security programs, initiatives, and staffing (one FTE directly assigned to this performance measure), which is \$5,000 above the FY 2009 enacted level. This proposed funding is broken down as follows: (1) \$152,000 in personnel related costs; (2) \$100,000 for two security-related capital projects; (3) \$25,000 in contractual costs for temporary security guards required at the Eisenhower Lock Visitors' Center during the summer months; and (4) \$8,000 for costs associated with the Department's HSPD-12 common identification card initiative.

In FY 2010, the SLSDC plans to continue utilizing five part-time security guards during the summer months at the Eisenhower Lock Visitors' Center as well as guards during the winter months to survey the lock facilities when navigation is closed. The summer guards serve as support for the SLSDC's Chief of Security to look for suspicious activity at the Visitors' Center and to perform screenings of visitors, while the winter guards look for suspicious activity around the two U.S. Seaway locks.

Security funding levels insufficient to meet these costs would result in increased security vulnerabilities to the Seaway's infrastructure and could result in the closing of the Eisenhower Lock Visitors' Center. Each year, more than 50,000 visitors primarily from the U.S. and Canada visit the Center to view commercial vessels transiting the lock. There is strong support with the local communities to keep the Visitors' Center open for business between Memorial Day and Labor Day.

The FY 2010 SLSDC security request includes the continuation of two multi-year capital projects related to upgrading security technologies (\$100,000). The security technology upgrade will include installation of additional security cameras with motion detection capabilities and installation of smart card readers and interface equipment. This initiative is a continuation of the SLSDC's efforts over the past several years to improve the physical security of its assets.

Without funding for this multi-year security-related capital project, the SLSDC's long-term security timeline will be delayed until funding is made available. This equipment upgrade is a critical component to the already-upgraded communications link (fiber optic) between the three SLSDC Massena facilities. The equipment will also support vessel traffic controllers with improved video of vessels transiting the locks that are monitored and taped to insure that vessels that damage the facilities are held accountable for repairs.

The second project relates to improving security lighting in various SLSDC property areas. Nearly all lighting fixtures in operation today are from the original construction in the 1950s and do not satisfy the current security monitoring needs. Proposed areas for new lighting include the lock and approach walls, lock galleries, and around Corporation facilities.

In addition to these two security-related capital projects, SLSDC staff will continue to be trained and tested on the agency's contingency measures in the event of a security or terrorist-related incident. SLSDC staff will also continue to aggressively pursue the objectives of its security program, which includes greater protection of SLSDC facilities, improved measures for employee and visitor entry into facilities, and planned contingencies for facilities/infrastructure in the event of a heightened security alert. Finally, SLSDC staff will continue to work collaboratively with federal and state security and intelligence agencies as situations arise.

The SLSDC senior official with direct responsibility for security activities is William Warburton, Chief of Security.

Organizational Excellence

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ORGANIZATIONAL EXCELLENCE
Performance Goal: Fulfill the President’s Management Agenda

This funding request supports the DOT Organizational Excellence strategic goal of fulfilling the President’s Management Agenda related to achieving financial management excellence.

The SLSDC has been a leader in the Department in the area of financial management since its inception. The Corporation has received 45 consecutive “clean” or unqualified audits without reportable conditions or material weaknesses and constantly meets or exceeds financial management-related performance standards set forth by the Department and Administration.

As a government corporation, the SLSDC manages an independent financial management system for its accounting and reporting requirements. Additionally, the SLSDC implements effective internal control policies that have been vital to properly managing its financial resources and assets, reporting timely and accurate budget and expenditure data to agency officials, and maintaining an unqualified audit position.

The resources requested to achieve this goal are:

SAINT LAWRENCE SEAWAY DEVELOPMENT CORPORATION
SLSDC Fund (69x4089) ¹
(in thousands of dollars)

<u>STRATEGIC & PERFORMANCE GOALS</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
<u>BY PROGRAM ACTIVITIES</u>	<u>ACTUAL</u>	<u>ENACTED</u>	<u>REQUEST</u>
A. <u>Fulfill the President’s Management Agenda</u>			
(1) Achieve financial performance goals, including an unqualified annual financial audit	\$ 60	\$ 60	\$120
Performance Goal Subtotal:	<u>\$ 60</u>	<u>\$ 60</u>	<u>\$120</u>
Total – Organizational Excellence Goal:	<u>\$ 60</u>	<u>\$ 60</u>	<u>\$120</u>
FTE (this segment):	0	0	0

¹ The SLSDC Fund (69x4089) includes appropriations from the Harbor Maintenance Trust Fund (69-8003) and SLSDC non-federal revenues.

PERFORMANCE ISSUE

The SLSDC’s financial management program is a vital component to the overall operations of the agency. In addition to the performance measure of achieving an unqualified audit, the SLSDC has also been successful in regularly achieving two additional internal measures: (1) maintaining a year-end reserve fund balance above \$10 million (achieved with \$11.4 million at the end of FY 2008); and (2) maintaining the percentage of SLSDC administrative overhead expenses as a percentage of total operating expenses, excluding depreciation and imputed expenses, at 25 percent or lower (achieved with 25 percent in FY 2008). The second internal measure was adopted by OMB as the SLSDC’s efficiency measure.

The SLSDC uses the administrative expense ratio measure to ensure that core mission expenses are given priority over administrative costs, whenever possible. As the SLSDC operates and manages an infrastructure more than 50 years old, it is even more critical that the SLSDC focus its funding priorities on asset renewal and general operations and maintenance activities and programs.

ANTICIPATED FY 2009 ACCOMPLISHMENTS

The FY 2009 enacted level of \$60,000 will allow the SLSDC to continue operating its independent financial management system (\$20,000) and fund its annual independent financial audit (\$40,000).

FY 2010 PERFORMANCE BUDGET REQUEST

For FY 2010, the SLSDC requests \$120,000 to continue its financial management activities. The \$60,000 increase is attributed to the start of an upgrade to the financial system (estimates for system operation and annual financial audit remain the same as FY 2009). As part of its long-term planning, the SLSDC anticipates upgrading its financial system over the next several years to improve efficiencies and to take advantage of newer technologies. In addition, current system software is expected to no longer be supported by vendors within the next 3-4 years.

The SLSDC senior official with direct responsibility for financial management activities is Marsha Sienkiewicz, Acting Chief Financial Officer.

U.S. St. Lawrence Seaway Asset Renewal Program Capital Investment Plan FY 2010-2014



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 2010-2014**

Background/Summary

In 2009, the U.S./Canadian binational St. Lawrence Seaway celebrates its 50th year of serving global commerce with a safe, secure, efficient, reliable, and cost competitive transportation route connecting the five Great Lakes to the world. 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 provides approximately \$3.6 billion in annual transportation cost savings compared to the next least expensive mode of transportation.

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. 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 as well as serving as a viable option to help mitigate 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 is approaching the end of its original "design" life, must be renewed through a large-scale capital reinvestment on both sides of the border.



SLSDC's U.S. Eisenhower Lock in Massena, N.Y.

Starting in 2009, the SLSDC initiated its 10-year U.S. Seaway Asset Renewal Program (ARP) for its navigation infrastructure and facilities. The 50 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 connecting Ontario and New York, maintenance dredging, operational systems, and Corporation facilities and equipment. None of these 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.

For the FY 2010-2014 time frame, the Seaway ARP/CIP includes 41 projects and equipment estimated at \$92.2 million, 32 of which are multi-year projects, 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). It is also important to note that dollar amounts for ARP projects are “project feasibility” estimates and 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.

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 RSMeans, which serves as North America's leading supplier of construction cost information.

Although the majority of ARP work will be completed by outside contractors, the SLSDC will utilize its own workforce for 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 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 to 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 of more than \$24 million.



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 7*).

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 10-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 on-going projects and to collectively discuss ways to improve the overall management, execution, and reporting of the program.

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 "Global Connectivity" and "Security, Preparedness and Response".

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 2008, the availability of the U.S. sectors of the Seaway, including the two U.S. locks maintained and operated by the SLSDC, was 98.9 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 2008, there were 11 hours, 37 minutes of delays, related to lock equipment malfunctioning incidents. These delays represented approximately two-tenths of one percent of the total navigation time during FY 2008.

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.

SLSDC Mission Statement

The Saint Lawrence Seaway Development Corporation operates and maintains the U.S. infrastructure and waters of the St. Lawrence Seaway, while performing trade development activities focused on economic development for the Great Lakes St. Lawrence Seaway System. Our mission is to serve the marine transportation industries by providing a safe, secure, reliable, efficient, and competitive deep draft international waterway, in cooperation with the Canadian St. Lawrence Seaway Management Corporation.

SLSDC Vision Statement

The Saint Lawrence Seaway Development Corporation will be a model federal agency, leading the Great Lakes Seaway System as the safest and most efficient, competitive, technologically advanced, and environmentally responsible marine transportation system in the world.

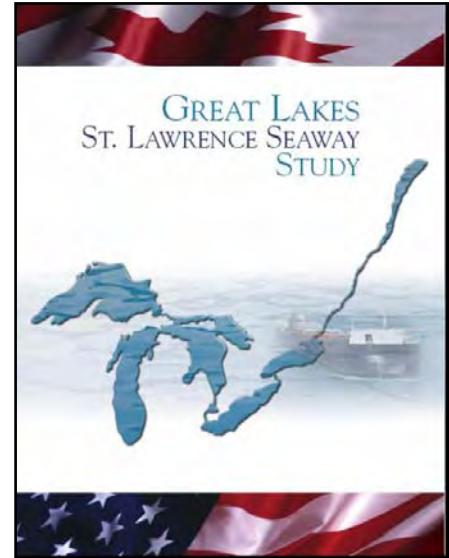
SLSDC Organizational Core Values

Accountability, Competitiveness, Customer focus, Dedication, Diversity, Excellence, Integrity, Operational Efficiency, Relevance, Service, and Quality.

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 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 has been partnering with the Corps on this project for the last seven years and 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, including evolving intermodal linkages and transportation technologies. 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. The waterway offers shippers significant savings: surveys suggest that the System saves shippers \$2.7 billion a year in transportation costs. 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:

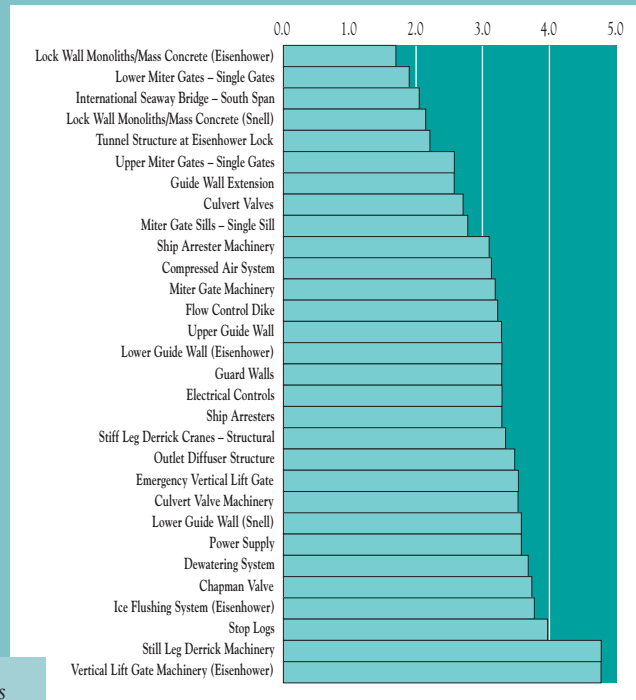
- 1) The System has the potential to alleviate congestion on the road and rail transportation networks as well as at border crossings in the Great Lakes basin and St. Lawrence River region.
- 2) A stronger focus on short sea shipping would allow the System to be more closely integrated with the road and rail transportation systems, while providing shippers with a cost-effective, timely and reliable means to transport goods.
- 3) 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.
- 4) 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.

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.



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.

**SLSDC U.S. SEAWAY ASSET RENEWAL PROGRAM
CAPITAL INVESTMENT PLAN
FYs 2010-2014**

**SUMMARY OF CAPITAL AND MAINTENANCE PROJECTS
TOTALING \$92,192,000**

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.

It is also important to note that dollar amounts for ARP projects are "project feasibility" estimates and can vary by an industry-recognized 20-30 percent. Funding for each year of the ARP is constrained to funding targets for those years 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.

Project No. 2: Both Locks – Rehabilitate Downstream Miter Gates (Non-Capital Maintenance Project) (FYs 2010 and 2011 -- \$3,023,000) – This project is to completely rehabilitate the miter gates at the downstream end of both Eisenhower and Snell Locks. It includes replacing worn and/or damaged components including the miter and quoin contact blocks, pintles, gate anchorages and diagonals to insure proper functioning of the miter gates.

Project No. 3: Both Locks – Rehabilitate Mooring Buttons, Pins and Concrete along Guidewalls and Guardwalls (Non-Capital Maintenance Project) (FYs 2010 and 2011 -- \$504,000) – This project is to rehabilitate the upstream and downstream approach walls at both Eisenhower and Snell Locks. These are mass concrete monolithic structures with vessel mooring buttons located behind them for transiting vessels to tie to. Since they were constructed, the concrete lifts/blocks have been dislodged and concrete damaged by vessel impact and the mooring buttons have settled such that they collect water/ice, making them difficult to use. The rehabilitation work would include pinning dislodged lifts, repairing damaged concrete and raising mooring buttons that have settled to improve the serviceability of the approach walls. *(Project started in FY 2009)*

Project No. 4: Both Locks – Culvert Valve Machinery – Upgrade to Hydraulic Operation (Capital Project) (FY 2011 -- \$2,020,000) – This project is for replacing the operating machinery for the Eisenhower and Snell Lock culvert valves, which are utilized for filling and emptying the locks. This machinery is nearly 50 years old and the open gearing is exhibiting macropitting. This equipment needs to be upgraded to insure its continued reliability. Failure of this equipment will cause delays to shipping while repairs are made. Due to the fact that this machinery was custom made and spare parts are limited, repairs to multiple pieces of machinery using the spare parts that are on-hand would not be possible. The upgrade will include new hydraulic operating machinery to match the upgrades made at the Canadian Seaway locks and other similar locks in the United States. *(Project started in FY 2009)*

Project No. 5: Both Locks – Rehabilitate and Insulate Winter Maintenance Lock Covers (Capital Project) (FY 2011 -- \$253,000) – This project is for rehabilitating and insulating the roof cover modules utilized to cover Eisenhower and Snell Locks when major winter maintenance projects are planned. These covers are over 40 years old and insulating them would save on funds used to heat work areas when required for such temperature sensitive projects as placing concrete and painting steel structures. *(Project started in FY 2009)*



Project No. 6: Seaway International Bridge – Perform Structural Rehabilitation and Corrosion Prevention (Non-Capital Maintenance Project) (FYs 2010 and 2011 -- \$10,439,000) – This project is for rehabilitation of the structural components of the south span of the bridge between Rooseveltown, N.Y., and Cornwall Island, which crosses the Seaway navigation channel. The bridge, which annually accommodates more than 2.5 million vehicles, was opened to traffic in 1962 and is in need for significant rehabilitation. This project,

scheduled for completion after four years of work, is designed to stop the corrosion currently experienced on many portions of the bridge structure and prevent the need for large-scale structural or even bridge replacement in the future. The SLSDC owns 68 percent of the south span of the bridge and the budget request reflects the U.S. prorated amount for the project. The Canadian Federal Bridge Corporation owns the remaining 32 percent of the south span. *(Project started in FY 2009)*

Project No. 7: Both Locks – Culvert Valves – Replace with Single Skin Valves (Capital Project) (FYs 2010, 2011, and 2012 -- \$1,818,000) – This project is for replacing the double skin culvert valves utilized for filling and emptying both Eisenhower and Snell Locks with single skin valves. Cracking of major structural members have occurred and with the double skin construction, the structural members are not accessible for inspection, blast cleaning and painting. The culvert valves are nearly 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. Depending 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 started in FY 2009)*

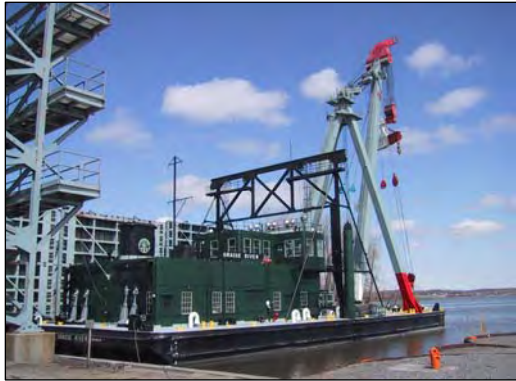


Project No. 8: Floating Navigational Aids – Upgrade/Replace (Capital Project) (FYs 2010, 2011, 2012, 2013, and 2014 -- \$305,000) (Additional costs anticipated beyond FY 2014) – This is an ongoing program to replace floating navigational aids/buoys and winter markers that have been damaged over the years, on an as required basis. The Corporation is responsible for approximately 100 buoys and 50 winter markers. *(Project started in FY 2009)*

Project No. 9: Corporation Equipment – Replace Heavy and Light Equipment, Maintenance Vehicles and Shop Equipment (Capital Equipment) (FYs 2010, 2011, 2012, 2013, and 2014 -- \$1,269,000) (Additional costs anticipated beyond FY 2014) – 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, snow plow, backhoe, grader, front end loader and shop equipment such as a lathe, milling machine and drill press. *(Project started in FY 2009)*

Project No. 10: Both Locks – Upgrade Power Supply Infrastructure from Moses-Saunders Dam to Both Locks and Adjacent Facilities (Non-Capital Maintenance Project) (FYs 2010, 2011, 2012, 2013, and 2014 -- \$212,000) (Additional costs anticipated beyond FY 2014) – 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 utilize diesel generators, which are expensive to operate, to continue operation of Eisenhower and Snell Locks and the Maintenance Facility. *(Project started in FY 2009)*

Project No. 11: Fixed Navigational Aids – Rehabilitate (Non-Capital Maintenance Project) (FYs 2010, 2011, 2012, 2013, and 2014 -- \$1,015,000) (Additional costs anticipated beyond FY 2014) – This project is for rehabilitating fixed navigational aids in the Seaway. Many of the structures are nearing 50 years old and are in need of more than routine repairs. Many of these structures have concrete bases which are eroding and cracking. The inspection of these structures will have to be done by divers and the majority of the repairs will require divers and the use of a tug and barge with crane to complete. Failure of a fixed aid would likely make it necessary to replace it which would cost significantly more than repairing the existing structure. *(Project started in FY 2009)*



Project No. 12: Corporation Equipment – Upgrade/Replace Floating Plant (Capital Project) (FYs 2010, 2011, 2012, and 2014 -- \$20,986,000) (Additional costs anticipated beyond FY 2014) – This is an ongoing program to rehabilitate and/or replace the Corporation's floating plant which is utilized for maintaining the locks and navigation channels. This multiyear project also includes replacing the tug and buoy tender barge; purchasing a smaller tug which would be more efficient for many operations where the capabilities of the larger tug are

not required, 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 utilized if a miter gate was damaged and had to be replaced. *(Project started in FY 2009)*

Project No. 13: Corporation Facilities – Replace Roofs (Capital Project) (FYs 2011, 2012, 2013, and 2014 -- \$469,000) (Additional costs anticipated beyond FY 2014) – 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 15-20 years and have reached the end of that time frame. *(Project started in FY 2009)*

Project No. 14: Corporation Facilities – Replace Paving and Drainage Infrastructure (Capital Project) (FYs 2010, 2011, and 2013 -- \$4,553,000) (Additional costs anticipated beyond FY 2014) – This project is for improving the pavement and drainage along lock approach walls, Corporation roadways and public parking and work areas at all Corporation facilities. In Upstate New York, the damage to pavements caused by winter conditions is significant and 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 started in FY 2009)*

Project No. 15: Eisenhower Lock Highway Tunnel – Rehabilitate (Non-Capital Maintenance Project) (FYs 2011 and 2013 -- \$508,000) (Additional costs anticipated beyond FY 2014)

– This is an ongoing project to maintain the highway tunnel which goes through the upper sill area of Eisenhower Lock to provide 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, 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 started in FY 2009)*

Project No. 16: Seaway System – Upgrade GPS/AIS/TMS Technologies (Capital Project) (FYs 2011 and 2013 -- \$203,000) (Additional costs anticipated beyond FY 2014)

– 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 started in FY 2009)*

Project No. 18: Eisenhower Lock – Vertical Lift Gate – Replace Wire Ropes (Non-Capital Maintenance Project) (FY 2010 -- \$503,000) – This project is for replacing the wire rope cables that serve to raise and lower the vertical lift gate at Eisenhower Lock. These cables were last replaced in 1979 and are exhibiting some strand breakage and corrosion. The vertical lift gate is an emergency closure designed to hold back the power pool if a miter gate is compromised.

Project No. 19: Corporation Facilities – Upgrade Electrical Distribution Equipment (Capital Project) (FYs 2010 and 2011 -- \$300,000) – 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 nearly 50 years old.

Project No. 20: Both Locks – Upgrade Lock Status/Controls (Capital Project) (FYs 2010 and 2011 -- \$303,000) – This project is for upgrading the lock/equipment status systems and the lock operating controls at both Eisenhower and Snell Locks. At present only the most critical components are monitored and controlled by the new computerized system. Adding control of some of the less critical components and more in depth monitoring of the status of all components will improve the effectiveness of preventive maintenance activities and result in increased reliability.

Project No. 21: Both Locks – Compressed Air Systems – Upgrade/Replace (Capital Project) (FYs 2010 and 2011 -- \$3,023,000) – This project is for replacing the compressors and corroded piping at both Eisenhower and Snell Locks which provides compressed air for various systems at the locks, for maintenance work and for air curtains and bubblers utilized to control ice in and around the locks during the opening and closing of the navigation seasons. The ability of the existing compressed air systems to provide the required volumes and/or pressures reliably is becoming a problem.

Project No. 22: Both Locks – Install Vessel Self Spotting Equipment (Capital Project) (FYs 2010 and 2011 -- \$504,000) – 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 Seaway agency has been testing this new technology at one of their locks.



Project No. 24: Both Locks – Structural Repair – Grout Leaks in Galleries and Recesses (Non-Capital Maintenance Project) (FYs 2010 and 2012 -- \$404,000) – 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 No. 25: Corporation Facilities – Upgrade/Replace Fire Alarm/Protection Systems (Capital Project) (FYs 2010 and 2012 -- \$203,000) – This project is for replacing antiquated fire alarm and fire protection systems at Corporation facilities.

Project No. 26: Corporation Facilities – Upgrade Storage for Lock Spare Parts (Capital Project) (FYs 2010, 2012, and 2014 -- \$609,000) – This project is for constructing shelters for storage of lock spare parts to prevent them from corroding prior to their use. Many of these items are not stored under cover and/or are stored in old storage sheds that are in need of repair or replacement.

Project No. 27: Corporation Facilities – Replace Windows and Doors and Repair Building Facades (Non-Capital Maintenance Project) (FYs 2010, 2012, and 2014 -- \$609,000) (Additional costs anticipated beyond FY 2014) – 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 No. 28: Snell Lock – Walls, Sills and Culverts – Rehabilitate Concrete (Non-Capital Maintenance Project) (FYs 2011 and 2013 -- \$4,060,000) (Additional costs anticipated beyond FY 2014) – 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, filling and emptying culverts and the gate sills by replacing deteriorated/damaged concrete.



Project No. 29: Eisenhower Lock – Walls, Sills and Culverts – Rehabilitate Concrete (Non-Capital Maintenance Project) (FYs 2010 and 2012 -- \$4,040,000) (Additional costs anticipated beyond FY 2014) – 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. It is resurfacing the

mass concrete that forms the locks walls, filling and emptying culverts and the gate sills by replacing concrete to depths ranging between approximately 8 inches and 24 inches.

Project No. 30: Eisenhower Lock – Ice Flushing System – Upgrade (Capital Project) (FY 2011 -- \$202,000) – This project is for making improvements to the ice flushing system at Eisenhower Lock. This system was installed in the early 1980's and is utilized for flushing ice from the lock chamber to make room for a vessel and to prevent/minimize damage to the vessel and the lock structures/ components.

Project No. 31: Both Locks – Rehabilitate Upstream Miter Gates (Non-Capital Maintenance Project) FY 2012 -- \$1,523,000 – This project is to completely rehabilitate the miter gates at the upstream end of both Eisenhower and Snell Locks. This includes replacing worn and/or damaged components including the miter and quoin contact blocks, pintles, gate anchorages and diagonals to insure proper functioning of the miter gates. *(Project started in FY 2009)*



Project No. 32: Snug Harbor – Rehabilitate Spare Gate Storage and Assembly Area (Non-Capital Maintenance Project) (FYs 2011, 2012, and 2013 -- \$762,000) – 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 and blast cleaning and painting of the spare miter gates and gate assembly towers.

Project No. 33: Both Locks – Upgrade Drainage Infrastructure in Galleries and Recesses (Capital Project) (FYs 2011, 2012, 2013, and 2014 -- \$611,000) – 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 causing flooding of the galleries and machinery recesses.

Project No. 34: Both Locks – Improve Ice Control (Capital Project) (FYs 2011, 2012, 2013, and 2014 -- \$790,000) (Additional costs anticipated beyond FY 2014) – This project is to improve the methods/equipment utilized to control ice in and around Eisenhower and Snell Locks during the opening and closing of each navigation season. Currently air curtains and bubblers are utilized to minimize the ice entering a lock chamber and to move it away from the miter gates and backhoes are used for removing ice from the lock walls, which reduces the width available for transiting vessels. Improvements to existing systems/equipment as well as utilizing new technologies would make operations during times when there is ice in the water more efficient and would minimize damages to the lock components and transiting vessels.

Project No. 35: Vessel Mooring Cells – Rehabilitate and Extend (Capital Project) (FYs 2011 and 2014 -- \$2,035,000) (Additional costs anticipated beyond FY 2014) – 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 almost 50 years old, are in a state of disrepair and are too short for current Seaway length vessels.

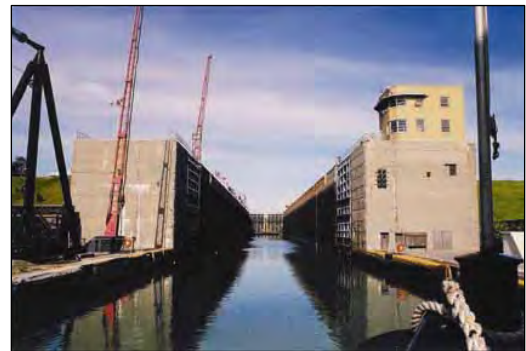
Project No. 36: Eisenhower Lock – Diffusers – Replace (Non-Capital Maintenance Project) (FY 2012 -- \$3,045,000) – This project is to replace deteriorated/damaged concrete in the diffusers at Eisenhower Lock. This includes concrete that was of poor quality when placed during original construction and 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 and this project would be for removal and replacement of these structures.

Project No. 37: Eisenhower Lock – Construct Drydock for Vessel Maintenance (Capital Project) (FY 2012 -- \$761,000) – 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 the cost of transporting vessels to a drydock typically located in the Great Lakes and the daily rate for having a vessel in that drydock.

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 one of those removed from the locks at the Maintenance Facility. The generators at the locks are over 20 years old and will not carry the total load. It is sometimes necessary to eliminate some of the load to insure that the generators will run. Also, installing one of these units at the Maintenance Facility with an automatic transfer switch will insure that if the power goes out, water lines will not freeze and break and it will enable maintenance activities to continue.

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 nearly 50 years old and parts for these units are no longer available.

Project No. 40: Both Locks – Extend Guidewalls in Pool (Capital Project) (FYs 2012 and 2013 -- \$3,053,000) – 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 and 2013 -- \$10,176,000) – This project is for installation of an ice flushing system at Snell Lock similar to the one at Eisenhower Lock. An ice flushing system is utilized to remove floating ice from the lock chamber to make room for transiting vessels and to prevent/minimize damage to the vessels and/or lock structures. Without an ice flushing system, it is necessary to flush ice utilizing the filling valves which is less efficient and effective and significantly increases the stresses on these valves and causes damage to them.

Project No. 42: Both Locks – Miter Gates – Structural Rehabilitation (Non-Capital Maintenance Project) (FYs 2012, 2013, and 2014 -- \$2,039,000) (Additional costs anticipated beyond FY 2014) – This project is to blast clean and treat the upstream and downstream miter gates at both Eisenhower and Snell Locks to prevent further corrosion of these structures. They were last treated over 20 years ago.



Project No. 43: Both Locks – Miter Gate Machinery – Upgrade/ Replace (Capital Project) (FY 2013 -- \$1,632,000) (Additional costs anticipated beyond FY 2014) – This project is for replacing the operating machinery for the miter gates at both Eisenhower and Snell Locks. This machinery is nearly 50 years old and needs to be upgraded to insure its continued reliability. The upgrade will include new hydraulic operating equipment to match the upgrades 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) (FY 2014 -- \$410,000) (Additional costs anticipated beyond FY 2014) – 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 if a vessel had a malfunction such that it was unable to stop and struck a miter gate. This operating machinery is nearly 50 years old and needs to be upgraded to insure its continued reliability.

Engineering Design, Construction Inspection, Contracting Support, and Project Management (Capital Project) (FYs 2010, 2011, 2012, 2013, and 2014 -- \$1,590,000) (Additional costs anticipated beyond FY 2014) – To accomplish all of the ARP projects, the SLSDC will require additional engineering design support, construction inspectors to monitor and insure the quality of the work, and contracting specialists to handle the increase in contract work.

Beyond FY 2013, an additional seven ARP projects are planned (*estimates not included*):

Project No. 23: Both Locks – Install Vessel Vacuum Mooring Systems (Capital Project) (Two-Year Project) – 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 Seaway agency commenced testing this new technology at the Welland Canal at the beginning of the 2007 navigation season and continues to refine equipment specifications.

Project No. 45: Flow Control Dikes – Rehabilitate (Non-Capital Maintenance Project) (One-Year Project) – 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 from which these dikes were constructed are moved by the forces of the water and ice and work needs to be done to restore the dikes to their as-constructed condition.

Project No. 46: Both Locks – Guidewall Extensions – Rehabilitate (Non-Capital Maintenance Project) (Two-Year Project) – 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 constructed after original construction of the locks to lengthen the approach walls 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 guidewalls which are mass concrete structures. 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 (Non-Capital Maintenance Project) (One-Year Project) – This project is for blast cleaning and treating 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. 48: Both Locks – Stiffleg Derricks – Replace (Capital Project) (Two-Year Project) – This project is for replacing the structural components of the stiffleg derricks at both Eisenhower and Snell Locks. There is a stiffleg derrick located at each end of each lock. These are hoisting devices utilized to place the stoplogs which are the temporary closure structures required for dewatering a lock for inspection and/or repair of the underwater components. These units are of riveted construction, are nearly 50 years old and are beginning to experience crevice corrosion. Upgrading/replacement of the operating machinery for all four units was completed in 2002.

Project No. 49: Seaway International Bridge – Replace Deck (Capital Project) (One-Year Project) – This project is for replacing the deck on the south span of the bridge between Rooseveltown, N.Y., and Cornwall Island, which crosses the Seaway navigation channel. The bridge, which annually accommodates more than 2.5 million vehicles, was opened to traffic in 1962 and is in need for significant rehabilitation. Problems with the deck are repaired on a continuing basis; however, it is anticipated that by 2018, a complete replacement will be required to insure its structural integrity and continued serviceability. The SLSDC owns 68 percent of the south span of the bridge and the budget request reflects the U.S. prorated amount for the project. The Canadian Federal Bridge Corporation owns the remaining 32 percent of the south span.

Project No. 50: Snell Lock – Diffusers – Replace (Non-Capital Maintenance Project) (One-Year Project) – This project is to replace deteriorated/damaged concrete in the diffusers at Snell Lock. This is primarily 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 and this project would be for removal and replacement of these structures.

U.S. Seaway Asset Renewal Program Capital Investment Plan FY 2010-2014

Project No.	Project Title	Type of Project (1)	Mission Objective (2)	Time Work Completed (3)	FY 2010 Request	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	Five Year Total
2	Both Locks - Rehabilitate Downstream Miter Gates	MP	L	Winter	\$1,508,000	\$1,515,000				\$3,023,000
3	Both Locks - Rehabilitate Mooring Buttons, Pins, and Concrete Along Guidewalls and Guardwalls	MP	L	Other	\$251,000	\$253,000				\$504,000
4	Both Locks - Culvert Valve Machinery - Upgrade to Hydraulic Operation	CP	L	Winter		\$2,020,000				\$2,020,000
5	Both Locks - Rehabilitate and Insulate Winter Maintenance Lock Covers	CP	L	Other		\$253,000				\$253,000
6	Seaway International Bridge - Perform Structural Rehabilitation and Corrosion Prevention	MP	T/B	Other	\$5,773,000	\$4,666,000				\$10,439,000
7	Both Locks - Culvert Valves - Replace with Single Skin Valves	CP	L	Other	\$603,000	\$606,000	\$609,000			\$1,818,000
8	Floating Navigational Aids - Replace	CP	W	Other	\$60,000	\$61,000	\$61,000	\$61,000	\$62,000	\$305,000
9	Corporation Equipment - Replace Heavy and Light Equipment, Maintenance Vehicles and Shop Equipment	CE	L, W	Other	\$251,000	\$253,000	\$254,000	\$255,000	\$256,000	\$1,269,000
10	Both Locks - Upgrade Power Supply Infrastructure from Moses-Saunders Dam to Both Locks and Adjacent Facilities	MP	L	Other	\$75,000	\$76,000	\$20,000	\$20,000	\$21,000	\$212,000
11	Fixed Navigational Aids - Rehabilitate	MP	W	Other	\$201,000	\$202,000	\$203,000	\$204,000	\$205,000	\$1,015,000
12	Corporation Equipment - Upgrade/Replace Floating Plant	CP	L, W	Other	\$503,000	\$505,000	\$1,523,000		\$18,455,000	\$20,986,000
13	Corporation Facilities - Replace Roofs	CP	F	Other		\$91,000	\$102,000	\$122,000	\$154,000	\$469,000
14	Corporation Facilities - Replace Paving and Drainage Infrastructure	CP	L, F	Other	\$1,508,000	\$1,515,000		\$1,530,000		\$4,553,000
15	Eisenhower Lock - Highway Tunnel - Rehabilitate	MP	T/B	Other		\$253,000		\$255,000		\$508,000
16	Seaway System - Upgrade GPS/AIS/TMS Technologies	CP	W	Other		\$101,000		\$102,000		\$203,000
18	Eisenhower Lock - Vertical Lift Gate - Replace Wire Ropes	MP	L	Winter	\$503,000					\$503,000
19	Corporation Facilities - Upgrade Electrical Distribution Equipment	CP	L, F	Other	\$151,000	\$152,000				\$303,000
20	Both Locks - Upgrade Lock Status/Controls	CP	L	Other	\$151,000	\$152,000				\$303,000
21	Both Locks - Compressed Air Systems - Upgrade/Replace	CP	L	Other	\$1,508,000	\$1,515,000				\$3,023,000
22	Both Locks - Install Vessel Self Spotting Equipment	CP	L	Other	\$251,000	\$253,000				\$504,000
24	Both Locks - Structural Repair - Grout Leaks in Galleries and Recesses	MP	L	Other	\$201,000		\$203,000			\$404,000
25	Corporation Facilities - Upgrade/Replace Fire Alarm/Protection Systems	CP	F	Other	\$101,000		\$102,000			\$203,000
26	Corporation Facilities - Upgrade Storage for Lock Spare Parts	CP	L, F	Other	\$201,000		\$203,000		\$205,000	\$609,000
27	Corporation Facilities - Replace Windows and Doors and Repair Building Facades	MP	F	Other	\$201,000		\$203,000		\$205,000	\$609,000
28	Snell Lock - Walls, Sills and Culverts - Rehabilitate Concrete	MP	L	Winter		\$2,020,000		\$2,040,000		\$4,060,000
29	Eisenhower Lock - Walls, Sills and Culverts - Rehabilitate Concrete	MP	L	Winter	\$2,010,000		\$2,030,000			\$4,040,000

U.S. Seaway Asset Renewal Program Capital Investment Plan FY 2010-2014

Project No.	Project Title	Type of Project (1)	Mission Objective (2)	Time Work Completed (3)	FY 2010 Request	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	Five Year Total
30	Eisenhower Lock - Ice Flushing System - Upgrade	CP	L	Other		\$202,000				\$202,000
31	Both Locks - Rehabilitate Upstream Miter Gates	MP	L	Winter			\$1,523,000			\$1,523,000
32	Snug Harbor - Rehabilitate Spare Gate Storage and Assembly Area	MP	L	Other		\$253,000	\$254,000	\$255,000		\$762,000
33	Both Locks - Upgrade Drainage Infrastructure in Galleries and Recesses	CP	L	Other		\$152,000	\$152,000	\$153,000	\$154,000	\$611,000
34	Both Locks - Improve Ice Control	CP	L	Winter		\$101,000	\$228,000	\$230,000	\$231,000	\$790,000
35	Vessel Mooring Cells - Rehabilitate and Extend	CP	W	Other		\$1,010,000			\$1,025,000	\$2,035,000
36	Eisenhower Lock - Diffusers - Replace	MP	L	Winter			\$3,045,000			\$3,045,000
37	Eisenhower Lock - Construct Drydock for Vessel Maintenance	CP	L, W	Winter			\$761,000			\$761,000
38	Both Locks - Upgrade/Replace Emergency Generators	CP	L	Winter			\$508,000	\$510,000		\$1,018,000
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			\$1,523,000	\$1,530,000		\$3,053,000
41	Snell Lock - Install Ice Flushing System Technologies	CP	L	Winter			\$5,075,000	\$5,101,000		\$10,176,000
42	Both Locks - Miter Gates - Structural Rehabilitation	MP	L	Winter			\$761,000	\$765,000	\$513,000	\$2,039,000
43	Both Locks - Miter Gate Machinery - Upgrade/Replace	CP	L	Winter				\$1,632,000		\$1,632,000
44	Both Locks - Ship Arrestor Machinery - Upgrade/Replace	CP	L	Winter					\$410,000	\$410,000
---	Engineering Design, Construction Inspection, Contracting Support, and Project Management	CP	ALL	Other	\$306,000	\$312,000	\$318,000	\$324,000	\$330,000	\$1,590,000
	Total				\$16,317,000	\$18,492,000	\$19,864,000	\$15,293,000	\$22,226,000	\$92,192,000

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

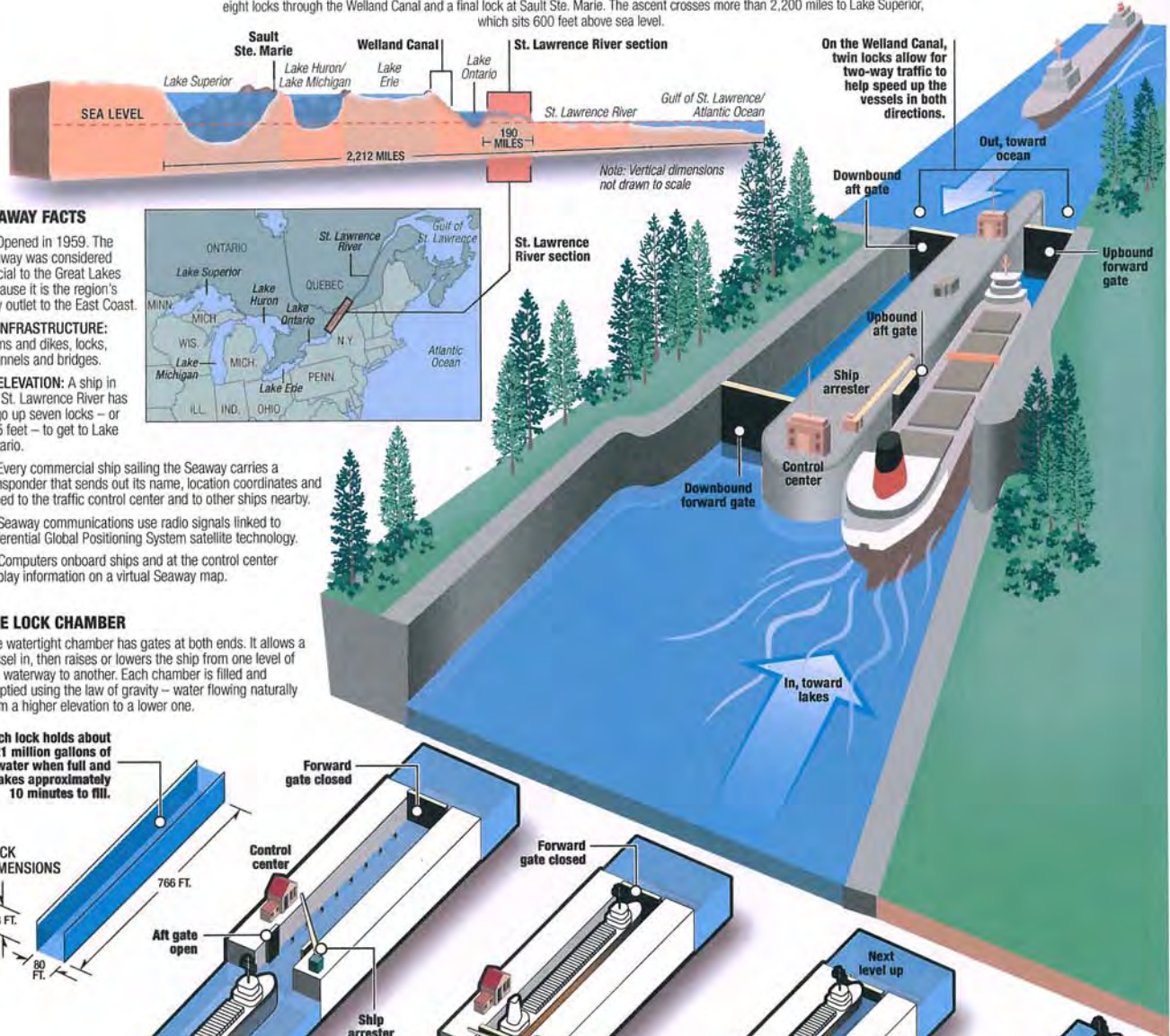
(2) L=Lock Operation Upgrade and Maintenance; W=Waterway Management; T/B=Tunnel and Bridge Maintenance; F=Facility Upgrade and Maintenance

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

Note: Dollar amounts for ARP projects are "project feasibility" estimates and have an industry-recognized contingency of 20-30 percent

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

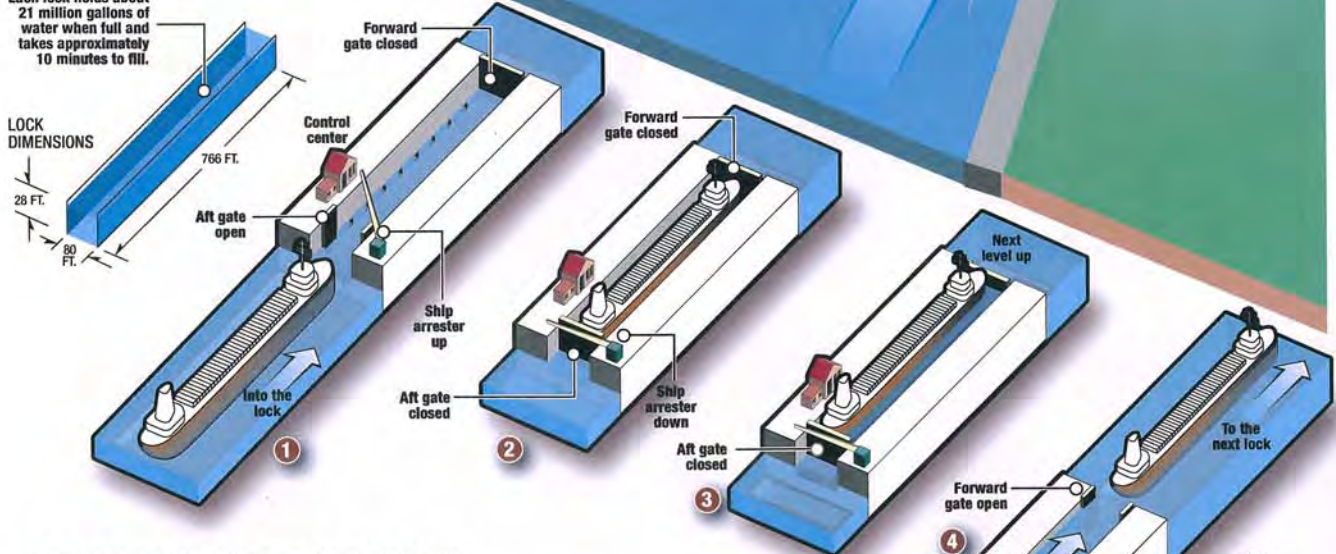
- Opened in 1959. The Seaway was considered crucial to the Great Lakes because it is the region's only outlet to the East Coast.
- **INFRASTRUCTURE:** Dams and dikes, locks, channels and bridges.
- **ELEVATION:** A ship in the St. Lawrence River has to go up seven locks – or 225 feet – to get to Lake 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>