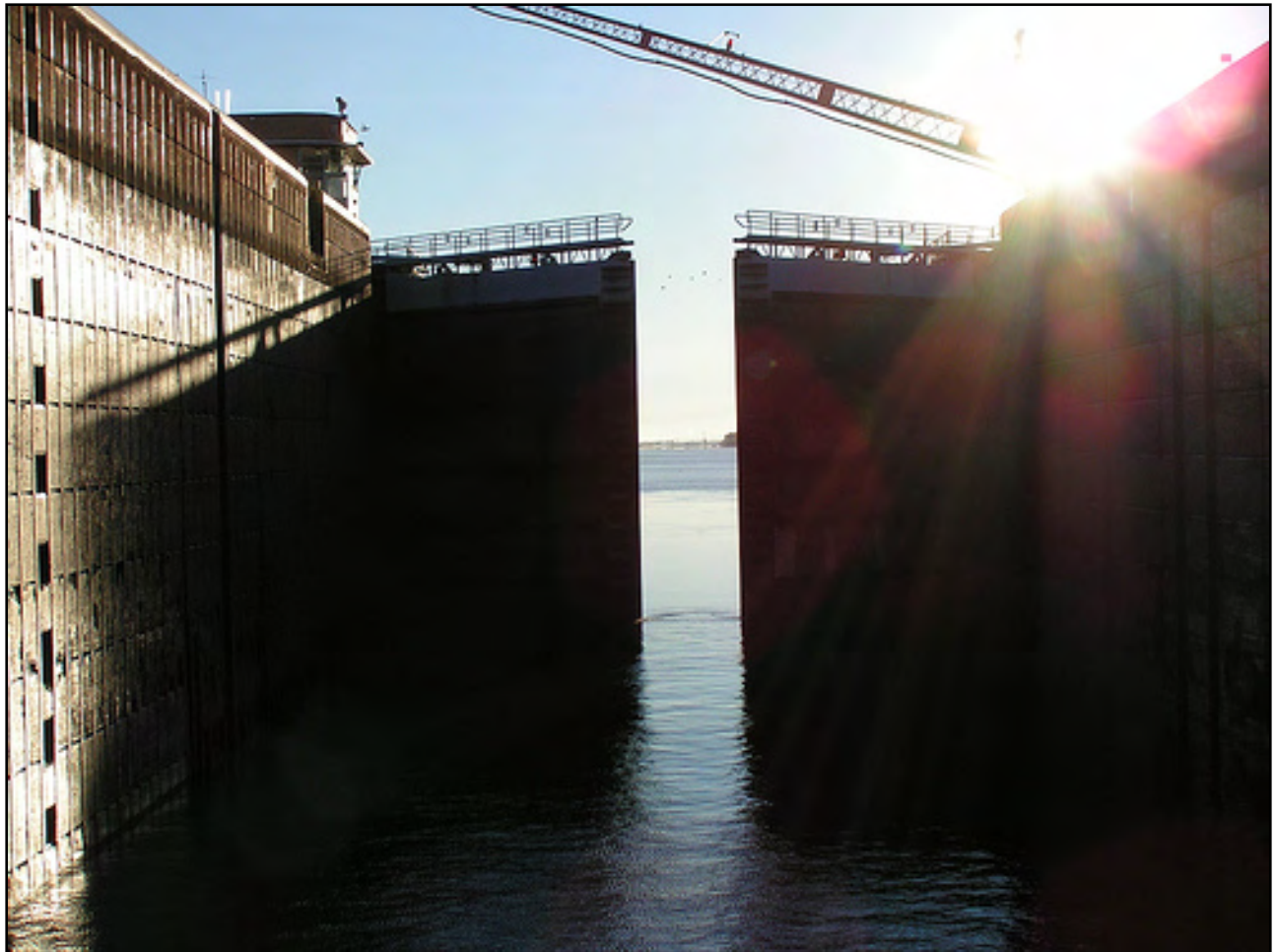




Saint Lawrence Seaway Development Corporation

Seaway Asset Renewal Program (ARP) Semiannual Report to Congress



March 31, 2009

BACKGROUND

As directed in the Conference Statement of H.R. 1105 (Fiscal Year (FY) 2009 Omnibus Appropriations Act), Division I (Transportation, Housing and Urban Development, and Related Agencies), the Saint Lawrence Seaway Development Corporation (SLSDC) is providing a semiannual report to the House and Senate Appropriations Committees on the status of its Asset Renewal Program (ARP). Semiannual status reports will be sent to the two Committees each April and October over the planned 10-year program. In addition, Committee staff will be updated throughout the year, as needed, on any significant changes to the plan's schedule, estimates, or execution.

The SLSDC developed the ARP, as part of its FY 2009 budget request, 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.

The 50 ARP projects and equipment included in the ARP 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.

The SLSDC's ARP supports the engineering considerations highlighted in the November 2007 binational *Great Lakes St. Lawrence Seaway Study*. 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 the Department of Transportation'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. During its work on the study, the SLSDC measured its infrastructure assets using a USACE-based lock criticality index to better identify and prioritize maintenance and replacement needs. The results of the initial index were used to develop the ARP.

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 SLSDC's lock-related ARP improvements will parallel activities underway at the Canadian Seaway locks, operated and maintained by the St. Lawrence Seaway Management Corporation (SLSMC).

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 USACE for similar work it completed at other U.S. locks, (3) consultation with the SLSMC for similar work it completed at the Canadian Seaway locks, and (4) utilization of

data from RSMMeans, which serves as North America's leading supplier of construction cost information.

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.

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.

This semiannual report provides the Appropriations Committees with (1) an update on FY 2009 ARP projects through March 2009, (2) an explanation of SLSDC activities either planned or underway to ensure the successful execution of the ARP over the next decade; and (3) a five-year estimate for ARP projects in FYs 2010-2014.

PROJECT UPDATES *(as of March 31, 2009)*

With the passage of the FY 2009 Omnibus Appropriations Act on March 10, 2009 and its signing into law by President Obama on March 11, 2009, the SLSDC's ARP was officially initiated.

Although Year One (FY 2009) funding for the ARP was not made available until the end of March, the SLSDC expects to fully obligate the enacted \$17.5 million for the 17 ARP projects prior to September 30. By the end of March, only pre-contract work had been completed for most of the projects. Major ARP lock projects to be obligated in FY 2009, including culvert valve and miter gate upgrades, will be completed during the winter months following the 2009 and/or 2010 navigation seasons due to long lead times for ordering equipment and machinery.

Future Seaway ARP semiannual reports to the Congress will include more detailed information related to obligations and expenditures, project progress and milestones, and any schedule and cost variances.

As of March 31, the only reportable change to the FY 2009 *U.S. St. Lawrence Seaway Asset Renewal Program (ARP) Capital Investment Plan (CIP)*, which was included in the 2009 budget request, relates to the rehabilitation of the miter gates at the two U.S. locks. The original plan was to fund the rehabilitation of a downstream miter gate (ARP Project No. 2) in FY 2009 at an estimated cost of \$1.5 million. Since the original proposal, SLSDC engineers have instead opted to rehabilitate an upstream miter gate at the same cost (ARP Project No. 31). Actual work is expected to occur during the winter months following the 2010 navigation season. With this change, the two downstream gates are now projected to be funded in FYs 2010 and 2011, with the remaining upstream gate funded in FY 2012.

Related to projects that were proposed for FY 2010 and beyond in the ARP/CIP in the FY 2009 request, the SLSDC has revised costs associated with the Seaway International Bridge structural rehabilitation and corrosion prevention project (ARP Project No. 6) and costs and dates related to the installation of vacuum mooring systems at the two U.S. locks (ARP Project No. 23).

Seaway International Bridge – Recent estimates from the Bridge Project Manager for the three-year project are significantly higher than the original projections included in the FY 2009 budget request. The SLSDC’s portion of the project is now estimated at \$12.4 million as compared to the original estimate of \$10.6 million. Estimates are higher due to increases for waste disposal, scaffolding, and containment. Project bids are expected in the next 2-4 months, which will provide even more accurate estimates.

Vacuum Mooring System – This two-year ARP project, based on new technology for holding vessels in place while they are in the lock chamber, was originally proposed for FYs 2010-11 at a total cost of \$3.3 million. The Canadian SLSMC has been testing the system at its Welland Canal locks over the past several navigation seasons with limited success. The SLSMC will conclude its research and development on this technology over the next two years. It is expected that final implementation of the vacuum mooring system may require four vacuum units per lock as opposed to the original plan of two per lock. Due to the delays in implementing the new system at the Canadian locks, the SLSDC has deferred this project beyond FY 2014 toward the end of the ARP and estimates are expected to be 2-3 times higher than originally proposed.

An update on each of the 17 FY 2009 ARP projects totaling \$17.5 million follows:

Project No. 1: Snell Lock – Replace Fendering Downstream Guidewall Extension

Description: This project is to replace the composite fendering on the downstream guidewall extension at Snell Lock. The existing composite fenders were a trial design installed nearly 20 years ago which have become very difficult/expensive to maintain and are in need of replacement to insure that vessels using this approach wall are not damaged due to the condition of the existing fendering.

Type of Project¹: Capital Project

Mission Objective: Lock Operation Upgrade and Maintenance

FY 2009 Estimated Cost: \$300,000

¹ 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.

Current Status: An inspection is scheduled for this spring to determine the quantity of each type of fender that will be required. Installation will be completed by in-house staff during 2009 and 2010.

Project No. 3: Eisenhower Lock – Rehabilitate Mooring Buttons, Pins and Concrete along Guidewalls and Guardwalls

Description: 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.

Type of Project: Non-Capital Maintenance Project

Mission Objective: Lock Operation Upgrade and Maintenance

FY 2009 Estimated Cost: \$250,000

Current Status: Project will be combined with Project No. 14 for paving and drainage. Work is expected to be completed in 2009 and 2010 between April and October.

Project No. 4: Eisenhower Lock – Culvert Valve Machinery – Upgrade to Hydraulic Operation

Description: This project is for replacing the operating machinery for the Eisenhower 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.

Type of Project: Capital Project

Mission Objective: Lock Operation Upgrade and Maintenance

FY 2009 Estimated Cost: \$2,000,000

Current Status: USACE is finishing design work, which is scheduled for completion in June. The SLSDC anticipates a 10-12 month lead time for ordering the valve operating machinery. Work is expected to be completed following the 2010 navigation season.

Project No. 5: Both Locks – Rehabilitate and Insulate Winter Maintenance Lock Covers

Description: 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.

Type of Project: Capital Project

Mission Objective: Lock Operation Upgrade and Maintenance

FY 2009 Estimated Cost: \$250,000

Current Status: Project is expected to be completed over the next two years, possibly with in-house staff.

Project No. 6: Seaway International Bridge – Perform Structural Rehabilitation and Corrosion Prevention

Description: 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.

Type of Project: Non-Capital Maintenance Project

Mission Objective: Tunnel and Bridge Maintenance

FY 2009 Estimated Cost: \$2,000,000

Current Status: Recent estimates from the Bridge Project Manager for the three-year project are significantly higher than the original projections included in the FY 2009 budget request. The

SLSDC's portion of the project is now estimated at \$12.4 million as compared to the original estimate of \$10.6 million. Estimates are higher due to increases for waste disposal, scaffolding, and containment. Project bids are expected in the next 2-4 months, which will provide even more accurate estimates.

Project No. 7: Eisenhower Lock – Culvert Valves – Replace with Single Skin Valves

Description: This project is for replacing the double skin culvert valves utilized for filling and emptying Eisenhower Lock 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.

Type of Project: Capital Project

Mission Objective: Lock Operation Upgrade and Maintenance

FY 2009 Estimated Cost: \$600,000

Current Status: USACE is reviewing the design completed by SLSDC engineers. The SLSDC expects to receive the Corps' final review in late spring/early summer.

Project No. 8: Floating Navigational Aids – Upgrade/Replace

Description: 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.

Type of Project: Capital Project

Mission Objective: Waterway Management

FY 2009 Estimated Cost: \$60,000

Current Status: Purchase requests for navigation aid flashers and winter markers have been completed.

Project No. 9: Corporation Equipment – Replace Heavy and Light Equipment, Maintenance Vehicles and Shop Equipment

Description: 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. In FY 2009, plans are to replace a 75-ton capacity cable crane which will be 33 years old. This crane is utilized for repairing and replacing culvert valves and wire rope fenders and for installing and removing the lock roof cover modules used each winter shutdown period. This crane will be replaced with a higher capacity unit due to the fact that some of the required picks are at or near the current crane's capacity.

Type of Project: Capital Equipment

Mission Objective: Lock Operation Upgrade and Maintenance / Waterway Management

FY 2009 Estimated Cost: \$1,750,000

Current Status: Bids for 75-ton crane are due on April 16.

Project No. 10: Both Locks – Upgrade Power Supply Infrastructure from Moses-Saunders Dam to Both Locks and Adjacent Facilities

Description: 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.

Type of Project: Non-Capital Maintenance Project

Mission Objective: Lock Operation Upgrade and Maintenance

FY 2009 Estimated Cost: \$75,000

Current Status: Work is on-going throughout the year by the New York Power Authority.

Project No. 11: Fixed Navigational Aids – Rehabilitate

Description: 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.

Type of Project: Non-Capital Maintenance Project

Mission Objective: Waterway Management

FY 2009 Estimated Cost: \$100,000

Current Status: Rehabilitation work will be on-going throughout the year.

Project No. 12: Corporation Equipment – Upgrade/Replace Floating Plant

Description: 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. In FY 2009, plans are to upgrade the hydrographic surveying equipment and platform; purchase a sectional spud barge to be used for emergency/spot dredging and for repair of fixed aids to navigation and mooring/dock structures; and dry dock the SLSDC's buoy barge. This multiyear project also includes replacing the tug and buoy tender barge; purchasing a smaller tug for more efficient operations where the capabilities of the larger tug are not required, as well as a small boat for emergency response and a small scow for transporting dredged spoil from emergency/spot dredging; and rehabilitating the Corporation's crane barge/gatelifter, which would have to be utilized if a miter gate was damaged and had to be replaced.

Type of Project: Capital Project

Mission Objective: Lock Operation Upgrade and Maintenance / Waterway Management

FY 2009 Estimated Cost: \$2,000,000

Current Status: FY 2009 procurements will include hydrographic survey equipment, a sectional spud barge, and the dry docking of SLSDC's buoy barge (dry docking bids are due on June 1).

Project No. 13: Corporation Facilities – Replace Roofs

Description: 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. In FY 2009, roofs on both lock control houses at Snell Lock will be replaced.

Type of Project: Capital Project

Mission Objective: Facility Upgrade and Maintenance

FY 2009 Estimated Cost: \$50,000

Current Status: Bids are due May 15.

Project No. 14: Corporation Facilities – Replace Paving and Drainage Infrastructure

Description: 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.

Type of Project: Capital Project

Mission Objective: Lock Operation Upgrade and Maintenance / Facility Upgrade and Maintenance

FY 2009 Estimated Cost: \$950,000

Current Status: Work to also include Project No. 3. The survey work has been completed and specifications will be completed either by architectural/engineering firm or in-house staff. Work is expected to be completed in 2009 and 2010 between April and October.

Project No. 15: Eisenhower Lock Highway Tunnel – Rehabilitate

Description: 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 tunnel lighting upgrade, 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.

Type of Project: Non-Capital Maintenance Project

Mission Objective: Tunnel and Bridge Maintenance

FY 2009 Estimated Cost: \$250,000

Current Status: Project to include new lighting and grouting of a portion of the tunnel. Research on the lighting portion of the project is completed, but specifications are still needed. All work to be completed summer/fall 2009 and/or spring/summer 2010.

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

Description: 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.

Type of Project: Capital Project

Mission Objective: Waterway Management

FY 2009 Estimated Cost: \$100,000

Current Status: Project to include the purchase of two weather stations for the Seaway GPS/AIS/TMS vessel traffic control system. The first station has been purchased and is being tested. Once testing is completed, the station will be placed in the Thousand Islands region to provide vessels with weather and visibility information. Once in production, the second station will be procured and also utilized in the Thousand Islands region.

Project No. 17: Navigation Channels – Dredge U.S. Sectors to Maintain Design Grade and Dispose of Sediments

Description: This project is for dredging of the navigation channel to remove sediments to maintain the design grade for the channel bottom. The Corporation no longer has the resources to do dredging in-house; therefore, dredging must be completed by contractors. The most recent river bottom sampling that was completed by the Corporation as part of the permitting process revealed that the sediments to be dredged are contaminated. This significantly increases the costs because of the requirement for environmental dredging and for the disposal of contaminated sediments. If the navigation channel bottom is not maintained at the design grade, the maximum permissible draft in the Seaway would have to be reduced making it necessary for vessels to carry less cargo thereby impacting the competitiveness of the Seaway System.

Type of Project: Non-Capital Maintenance Project

Mission Objective: Waterway Management

FY 2009 Estimated Cost: \$5,000,000

Current Status: All permits for dredging the intermediate pool (between Eisenhower and Snell Locks) have been obtained. The SLSDC is working collaboratively with the St. Regis Mohawk Tribe to complete the permitting requirements for dredging in the international tangent section. The solicitation and bid process for this project is expected to be completed in July/August, with work to be started in 2009/2010 and completed in 2010/2011. This project is considered a top ARP priority. Final bid amounts above the estimate could delay other lower priority ARP projects in FY 2009.

Project No. 31: Both Locks – Rehabilitate Upstream Miter Gates

Description: 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.

Type of Project: Capital Project

Mission Objective: Lock Operation Upgrade and Maintenance

FY 2009 Estimated Cost: \$1,500,000

Current Status: The draft specifications are completed and are being finalized by SLSDC staff. The SLSDC anticipates an 8-10 month lead time for ordering the gate components. Work is expected to be completed following the 2010 navigation season.

ARP FIVE-YEAR ESTIMATES

As provided in the *U.S. St. Lawrence Seaway Asset Renewal Program (ARP) Capital Investment Plan (CIP), 2010-2014*, which was included in the FY 2010 budget request, the SLSDC provided estimates for executing the next five years of the ARP (*see pages 14-15*).

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.

For descriptions of the 41 projects scheduled for FYs 2010-2014, a copy of the Seaway ARP/CIP can be downloaded at www.greatlakes-seaway.com/en/pdf/SLSDC_Asset_Renewal_Plan.pdf.

ADDITIONAL ARP ACTIVITIES

Since proposing the ARP in early 2008, the SLSDC has taken several steps to ensure the successful execution of the decade-long plan. For example, the agency has developed an internal team to ensure the ARP is executed properly and efficiency, and utilized innovative contracting vehicles prior to the start of the ARP to provide Seaway officials with an expedited process to contract for project support.

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 review project plans and milestones, troubleshoot any concerns, and report progress to senior executives. 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.

Indefinite Delivery Contracts – The SLSDC’s procurement division, in working with the agency’s engineering team, recognized the need to be able to award ARP-related support contracts quickly without the time constraints of traditional federal contracts. The SLSDC expects to use architecture/engineering (A/E) contractors to receive support and expert advice on project plans, specifications, and drawings.

To that end, the SLSDC awarded indefinite delivery contracts to three A/E firms to support the ARP. As support work is needed, the SLSDC will request proposals from the three firms in a streamlined process, with negotiations, if required, limited to only those firms. The policies and procedures for awarding indefinite delivery contracts are contained in Federal Acquisition Regulation (FAR), Subpart 16.5.

CONCLUSION

In March 2009, the SLSDC initiated its 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.

Although Year One (FY 2009) funding for the ARP was not made available until the end of March, the SLSDC expects to fully obligate the enacted \$17.5 million for the 17 ARP projects prior to September 30. Projects in FY 2009 include maintenance dredging (\$5 million), structural rehabilitation at the Seaway International Bridge (\$2 million), and lock culvert valve upgrades to hydraulic operations (\$2 million). By the end of March, only pre-contract work had been completed for most of the projects. Major ARP lock projects to be obligated in FY 2009, including culvert valve and miter gate upgrades, will be completed during the winter months

following the 2009 and/or 2010 navigation seasons due to long lead times for ordering equipment and machinery.

Future Seaway ARP semiannual reports to the Congress will include more detailed information related to obligations and expenditures, project progress and milestones, and any schedule and/or cost variances.

U.S. Seaway Asset Renewal Program 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		\$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		\$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		\$21,000	\$212,000
11	Fixed Navigational Aids - Rehabilitate	MP	W	Other	\$201,000	\$202,000	\$203,000		\$204,000	\$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	\$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 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 Project

(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