



The Great Lakes - St. Lawrence Seaway System
Le réseau Grands Lacs - Voie maritime du Saint-Laurent

2010 - NOTICE TO SHIPPING #4

NIAGARA REGION
WELLAND CANAL

“LOCKAGE OF THE FUTURE”

THIS NOTICE CONTAINS THE FOLLOWING:

1. TESTING OF “LATERAL HYDRAULIC ASSIST” IN LOCKS 1, 2, 3 & 7
2. TESTING OF “SELF SPOTTING” IN LOCKS 1 TO 7
3. TESTING “VESSELS ABILITY TO STOP WITHOUT USE OF MOORING LINES” IN LOCK 7
4. TESTING OF “HANDS FREE MOORING EQUIPMENT” IN LOCK 7

1. TESTING “LATERAL HYDRAULIC ASSIST” IN LOCKS 1, 2, 3 & 7

Lateral Hydraulic Assist was tested at Lock 7 during the 2009 navigation season with promising results therefore as part of the overall Hands Free Mooring strategy the SLSMC will continue using it at Lock 7 and expand it to include Locks 1, 2 & 3 during the 2010 navigation season. The ‘Lateral Hydraulic Assist’ is designed to assist vessels in the upbound direction to keep to the mooring side of the lock chamber. The ‘Lateral Hydraulic Assist’ is activated when the stem of the upbound vessel passes the end of the bullnose below the lock. Once the operation is initiated the discharge valves at the lower end of the lock move to the fully closed position and the upper end tie-up side valves open to 0.38m.

This valve opening permits the water to flow through the filling culverts, pass under the vessel, and deflect off the opposite wall, then return in a lateral motion to create a force on the side of the vessel. This force keeps the vessel to the mooring side of the lock.

Masters / Pilots on vessels equipped with bow thrusters are encouraged to use them when entering the lock, once past the open lock gates, to assist the vessel in getting alongside of the tie-up side of the lock. If the vessel is participating in a Hands Free Mooring test the bow thrusters should not be used once the mooring pads are attached to the vessel as this could result in the pads detaching and / or damage to the pads.

2. SELF SPOTTING IN LOCKS 2, 3 & 7:

During 2009 testing of the Vessel Self Spotting System, (VSSS), took place at Locks 2, 3 & 7 with good results / feedback. Mariners are advised that testing will continue at these locations during the 2010 navigation season. In addition, during the upcoming navigation season we will be testing Vessel Self Spotting at all remaining locks in the Welland Canal with the exception of Lock 8. This equipment uses eye

The St. Lawrence Seaway Management Corporation
Corporation de Gestion de la Voie Maritime du Saint-Laurent

Région Maisonneuve
151, rue de l'Écluse
St-Lambert, Québec
J4R 2V6

Tel : (450) 672-4115 Fax : (450) 672-8493

Niagara Region
508 Glendale Avenue
P.O. Box 370
St. Catharines, Ontario
L2R 6V8

Tel : (905) 641-1932 Fax : (905) 641-5721

safe laser ranging technology, located at both ends of the lock, to recognize the foremost portion of the vessel's hull and estimate its position in the lock. The vessel's position will be updated dynamically and displayed on both LED panels, located on the tie up side of the lock, as the vessel progresses to its final mooring position.

Masters / Pilots are asked to provide any comments / concerns with respect to the vessel self spotting system directly to the lock crew who will record them on the appropriate form.

Note: Masters / Pilots should be aware that equipment for these new technologies are installed close to the lock walls which could be damaged if any part of the vessel is allowed to sufficiently overhang the lock wall. Therefore, extreme caution is to be exercised when maneuvering inside the lock chamber.

3. TESTING “VESSELS ABILITY TO STOP WITHOUT USE OF MOORING LINES” IN LOCK 7 – PHASE III

A critical component of the development of the Hands Free Mooring equipment is to test how well vessels can come into lock structures, 'STOP' at their designated final mooring position and 'HOLD' their position within 1 meter of the lock wall without using mooring lines.

The St Lawrence Seaway Management Corporation began this testing during the 2009 navigation season at Locks 1, 2, 3 & 7. As a result of the good cooperation received from the trade a lot of very useful data / information was gathered and some challenges identified that will require further testing in an effort to identify possible solutions. A testing plan has been developed based on these challenges and we are asking for your ongoing support as we move forward in finding solutions that will make this important project a success. Mariners are advised that testing will continue only at Lock 7 during the 2010 navigation season. For upbound vessels involved in the testing mooring lines will only be secured once the vessel has come to a stop at its final mooring position. For downbound vessels involved in the testing only mooring line No. 2 will be secured. In addition downbound vessels involved in the testing with an overall length of 160m or less will be given the option to use the No. 4 mooring line instead of the No. 2 at the Masters / Pilots discretion. For vessels participating in both the No Lines and Hands Free Mooring testing you may, as testing progresses, be asked in the upbound direction not to deploy mooring lines or in the downbound direction to cast-off mooring line(s) if the hands free mooring units successfully attach. More information on the specifics of the testing will be provided at the time of the test.

Note: As previously stated Masters / Pilots on vessels equipped with bow thrusters are encouraged to use them when entering the lock, once past the open lock gates, to assist the vessel in getting alongside of the tie-up side of the lock. If the vessel is participating in a Hands Free Mooring test the bow thrusters should not be used once the mooring pads are attached to the vessel as this could result in the pads detaching and / or damage to the pads.

Operations Control Centre personnel will confirm with Masters / Pilots at Lock 8 downbound and Call-in Point 15 upbound that their vessel will be tested at Lock 7. Particulars of the test will be provided prior to the vessels entry into the lock.

Masters / Pilots are asked to provide any comments / concerns with respect to the tests directly to the lock crew who will record them on the appropriate form.

4. HANDS FREE MOORING IN LOCK 7:

During the 2009 navigation season The St. Lawrence Seaway Management Corporation continued testing and evaluating a “**Hands Free Vacuum Pad Mooring System**” at Lock 7. Much needed information was gathered thanks to the excellent cooperation from all those that participated in the many tests that were conducted. This information and your feedback has been instrumental in assisting us to modify the overall mooring process and further define the “Lockage of the Future”. Our analysis of the test results during 2009 has lead to the development of a more focused test plan for 2010 which will target specific critical data areas. Detailed information about the test to be performed will be provided at the time of the test.

For vessels participating in only the Hands Free Mooring testing you may, as testing progresses, be asked to not deploy mooring lines or to cast-off all mooring lines deployed if the hands free mooring units

successfully attach. The lockage would then proceed using the hands free mooring units only. More information on the specifics of the testing will be provided at the time of the test.

From the start of the navigation season, in Lock 7 only, some vessels may be asked to stop at a different location in the lock than normal. This is necessary to prevent the vessel's mooring wires from making contact with the hands-free units. Instructions to this effect will be given to the vessel prior to entering the lock.

Note: Participation in the testing as outlined in this notice is important to the overall success of these new technologies and the efforts of the Masters / Pilots is encouraged and appreciated.

John W. Chalmers
Senior Coordinator, Regional Operations Services

St. Catharines, Ontario

March 17, 2010