



REPORT TO 2018 MARINERS' WORKSHOP

Great Lakes Region

Overview

- 2018 Environmental Challenges to Operations.
- AIS messaging for Meteorological and Hydrographic information.
- Draft information systems usage in the Seaway.
- Seaway technologies.
- Virtual and Synthetic ATONs.

Environmental Challenges - Seaway

- High water levels throughout the Great Lakes experienced – issues related to air drafts and dock equipment clearances and speed reductions.
- High water outflows in the St. Lawrence Seaway during the spring and summer of 2017. Lake Ontario water level at record highs.
- Seaway outflows from Lake Ontario reached a peak of 10,400 cu m/s from June to August. Reduced Lake Ontario by at least two feet.

Environmental Challenges - Seaway

- High outflows = vessel transit restrictions:
 - No meets in certain areas.
 - Speed reductions.
 - Tug assistance.
 - Draft reductions for up bound vessels.
 - Reduced anchorage areas.
- Challenge will be to determine what is the top end of outflows that permits safe vessel navigation? Is there a role for simulation to determine the high end point?

Environmental Challenges - Seaway

- Weather and ice conditions at closing of the Seaway were the most difficult faced. Lower Seaway was declared closed on January 11th when the last vessel cleared. Normal close date is December 31st.



AIS Met/Hydro Messaging

- Test bed AIS/Hydro Messaging established at 17 Met stations and 14 Hydro stations (Nov. 2017) on the Great Lakes.



AIS Met/Hydro Messaging

Further considerations:

- Work with the NOAA and the USCG to establish similar capabilities on the US side of the Great Lakes.
- Consult with mariners on additional locations.
- Validate the usefulness of this service. Is wind, visibility and water level the most important data that can be displayed for all stations? Is there a need to display temperature and humidity?
- Canadian domestic fleet has VSAT broadband access to the internet onboard and has been obtaining this type of info directly from source website. Less of a need for AIS MET/Hydro messages.

Draft Information Systems (DIS)

- Fitted on the major Canadian flag laker fleet.
- Nearly half of the Seaway down bound(MLO and Niagara) transits by inland vessels were greater than 26 feet 06 inches in 2017. Using an approved DIS system.
- Lesser deep draft vessels transits for the up bound in both Seaway districts.
- Still await any possible adoption by the ocean fleet of DIS.

Seaway Technologies



- Near completion of the Hands Free Mooring installation on all deep locks.
- Improvements to self spotting.
- Remote operations of locks and bridges.
- Future – determine if requirement to change the traditional order of turn for vessel lockages. Transit order project.

Virtual and Synthetic ATONs.

AIS-ATON Selection Considerations:

- Chart Clutter –ensure we are enhancing the mariner's situational awareness, not creating extraneous clutter.
- Evaluation of Virtual/Synthetic AIS ATON is ongoing. Reliability, visual references, ice conditions, night navigation, double pilotage etc.
- Base station capacity and transmission slots.
- Concerns of overloading the system.
- What is the CCG approach in the bi national waters versus the USCG approach?

Questions

