Shipping Federation of Canada – Mariners' Workshop 2017
Break-out Group Summary

Topic: National Marine and Monitoring Strategy
Host: Environment and Climate Change Canada (Pat Wong and Brent Tompkins)

The topic of this break-out session was on the national marine and monitoring strategy of Environment and Climate Change Canada (ECCC), with a focus on two main themes: weather observations and potential for Network of Networks opportunities; and marine products and services with a look at current services and future needs. Session participants included representatives from the British Columbia Coast Pilots, Prince Rupert Port Authority, and Canadian Hydrographic Services.

Discussion:
The session opened up by getting to know our clients by listening to what weather information they need in order to operate safely and efficiently and how they use ECCC's marine products and services. In terms of our two main themes, here are some of the highlights of our discussions:

Weather Observations

- There is significant appreciation for having some coastal observation stations available via CCG AIS. Pilots can view these observations on their Portable Pilot Units (PPU's).
  - CCG pulls the 15 minute observations from the ECCC Datamart website and relays the data onto their AIS broadcast.
- The ability to have real-time observations, trends and forecasts is important to mariners.
- Peak wind, not just the sustained-top-of-hour wind is critical to marine users.
- Maximum waves or peak seas would be really useful to mariners.
- Sea level pressure, including trends, is critical and mariners commonly go to non-MSC sites to get the full observation pressure from MSC stations and buoys.
- Although the ECCC Weatheroffice marine site does provide general pressure tendency trend details (i.e. rising, falling, or steady), it truncates the last digit of pressure on the actual observations (i.e. a measured pressure of 102.95 kPa is displayed as 103.0 kPa).
  - Concern was noted that this display strategy may mask rapidly falling pressure and lead to poor decision making by experienced mariners.
- Freezing rain observations and forecasts (and icing) were identified as particularly critical, specifically for the pilot transfers taking place via helicopter.
- ECCC's weather radar service is not considered to be very user friendly to mariners.
  - Suggestions for improvements included the need for a better background, the ability to overlay other information, and a zoom feature.

Services

- Pilots transferring to/from ships via pilot boat need accurate and timely sea state observations and forecasts (including significant wave height, max wave height, wave period,

wave direction, sustained wind speed, peak wind speed , and wind direction) in order to plan the timing of safe transfers.

- Pilot transfer stations are moving further offshore which is necessitating the need for transfer to occur by helicopter. For these types of transfers, information about cloud ceilings, freezing precipitation, visibility restrictions, and wind gust speeds are also required.
  - There is an opportunity here for the consideration of integrating an aviation style of forecast for marine purposes.
  - It was noted however, that aviation observations and forecasts for helicopters are the mandate of NAV CANADA, not the mandate of ECCC or the Government of Canada.
- For planning purposes, pilots would like to have highly detailed point forecasts for the first 6-8 hours of a forecast with the forecasts being updated more frequently. Point forecasts would align ECCC's services with what is available to pilots operating in adjacent U.S. coastal waters through the National Weather Service (NWS). This will assist in identifying situations where pilots may need to call for extra tugs for the bigger ships, in particular the energy ships.
  - Detailed hourly point forecasts for transfer stations would be ideal.
- Pilots would like to be alerted when certain conditions are occurring or forecast to occur, but they would like to be able to set their own parameters as different applications have dramatically different threshold limits.
  - This aligns with a user-defined threshold and risk-based decision support approach.
- Pilots noted an interesting situation related to the cruise ship industry in which the majority of pilot transfers in the Juan de Fuca Strait happen at about 3:00 pm (cruise ships coming from Alaska will spend the evening in Victoria before transiting to Seattle overnight). Pilots have found that the latest forecast available to them, which is issued at 10:30 am, is often not detailed enough to allow them to determine what time the winds will come up and/or when the fog will roll in. ECCC's next regular forecast issue time is 4:00 pm.
  - There is an opportunity here for consideration to be given to adjusting the forecast issue time to better suit this requirement.
- Pilots were presented with a new probability style of forecast to gauge interest in this sort of approach and feedback was generally positive on the extra information that it would be able to provide to marine clients.

Going Forward:

- Clients would like to have a tool that would allow them to input their various operating thresholds in order to determine where there are "windows of opportunity" for them to conduct their necessary activities.
- We continually need to engage clients to understand their weather-related needs and to provide them access to the information they need in a timely and accurate manner.
- Using a Network of Networks philosophy, we need to make better use of our resources and existing infrastructure.
- Clients are ready for new products and services, such as, high resolution forecasts, on-demand forecasts, probability type forecasts, revised or more frequent forecast issue times, and decision support tools and services.