Northwest Passage (NWP 16) 2016 Exercise – After Action Report

Overview:

In collaboration with Crystal Cruises, the Canadian Coast Guard (CCG), Transport Canada (TC), and the Department of the Defense (U.S. Air Force), the U.S. Coast Guard (USCG) hosted a half-day informational workshop followed by a full day tabletop exercise (TTX). The workshop and TTX supported preparedness requirements for International Search and Rescue (SAR) coordination in accordance with the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual, the National Search and Rescue Supplement (NSS) and the National Search and Rescue Plan of the United States.

The purpose of this exercise was to explore a coordinated response to a large cruise ship incident involving more than 1,600 passengers and crew in the Arctic near the Canadian /U.S. border. The participants discussed response capability and awareness between the U.S /Canadian federal agencies, and Crystal Cruises in preparation for the first ever high capacity passenger vessel to transit through The Northwest Passage (NWP). The TTX used the Crystal Cruises onboard Northwest Passage Emergency Response Plan (NWPERP) for the P/V CRYSTAL SENERNITY and compared the plan to required standards and expectations from each SAR region. In order to validate assumptions, the parities agreed to discuss response to a fictional event that would necessitate a SAR response for a high capacity passenger vessel involving the evacuation of personnel in the remote Arctic region in vicinity of USA /Canadian border.

All presentations for the informational workshop and TTX can be viewed online at: http://www.uscg.mil/pvs/nwpassage2016.asp

Background Data:

A mass rescue operation is defined by the International Maritime Organization (IMO) as "a civil search and rescue activity characterized by the need for immediate assistance to a large number of persons in distress, such that the capabilities normally available to search and rescue authorities are inadequate". IMO's "Guidance for Mass Rescue Operations" (COMSAR/Cir 31) dated 6 February 2003 provides additional valuable MRO background and response information.

These exercises examine our ability to implement mass rescue operation response and recovery plans in support of federal, state, local, and private-sector response and recovery activities. They are also a valuable training tool for incidents of high consequence and low frequency.

The greatest risk to any large passenger vessel transit of the NWP is a Mass Rescue Operation (MRO) involving the immediate displacement of large numbers of people from a vessel to small lifeboats/rafts and then transit toward landfall. The lack of dedicated SAR resources, infrastructure, communications and potential shelters pose a huge challenge in both scope and scale.

Consistently since 1992, 1 to 2 medium sized cruise ships have transited the NWP each year. They carry approximately 100 to 400 passengers and crew. Typically vessels take around 22 days to transit from the eastern Arctic though the NWP and into the U.S., with generally 5 to 7 days of the voyage in the Alaskan Arctic. During the U.S. portion of the transit, the vessels normally transit greater than 12 nm offshore due to the limited water depths of 4.1 m (13.5ft) and very limited port destinations that support deep draft vessels, such as Nome or Dutch Harbor. The P/V CRYSTAL SERENITY is the first ever large non-ice strengthened passenger vessel transiting the NWP with over 1,600 passengers and crew.

The Northwest Passage (NWP) 2016 exercise was the cumulation of a year long process to assist Crystal Cruises in the development of the NWPERP for the P/V CRYSTAL SERENITY in accordance with SOLAS. As the P/V CRYSTAL SENERNITY transits from Seward, AK to New York, NY through the NWP over a 31 day voyage, the vessel will cross several SAR regions within the U.S., Canada and Greenland requiring a multitude of different reporting requirements and procedures. This NWPERP will be held by the respective SAR Rescue Coordination Center (RCC) services during the vessel's transit.

Tabletop Exercise Planning Timeline:

Scoping Meeting – (Jun 2015): USCG hosted, Transport Canada, Canadian Coast Guard, DOD (Air Force RCC Anchorage) and Crystal Cruises in Juneau, AK. Joint design team (JDT) for planning the exercise was established.

Crystal Cruises Plan Review (Sept 2015): USCG received first draft of Crystal Cruises Emergency Coordination and Response Plan for review. USCG provides feedback recommendations to Crystal Cruises.

Initial Exercise Plan (16-17 Nov 2015): CGD17 hosted IPM in Juneau, AK. Transport Canada, Canadian Coast Guard and Crystal Cruises (via teleconference) attended. A draft 1 ½ day exercise agenda and objectives list was produced by the group.

Exercise Details Finalized (Feb 2016): CGD17 hosted MPM via teleconference to accommodate all JDT members. Objectives list was reviewed and updated. Exercise topics were finalized and assigned to specific JDT members.

Final Review (Mar 2016): CGD17 hosted FPM in Anchorage, AK. JDT reviewed PowerPoints of selected exercise topics for accuracy and content.

Table Top Exercise (13-16 April 2016): USCG hosted one and half day seminar and TTX. Presenters/facilitators provided electronic copies of presentations and handout to JDT. USCG chaired TTX.

Website Development (18 April 2016): Following the exercise, the USCG posted the presentations and associated materials onto the USCG's Passenger Vessel Safety website.

Objectives and Take-Aways:

1. Review existing capabilities and limitations to Arctic emergency response. *<<Achieved>>*

   All SAR agencies agreed that any response to a large cruise ship/mass rescue incident would exceed existing government SAR resources and require close coordination of all commercial mariners operating in the region at the time of the incident. In order to ground truth participant discussions during the exercise, each agency developed a list of ready assets based on previous year availability (25Aug 2015). In addition, a list of potential Good Samaritan vessels were established through the Alaska Marine Exchange vessel tracking system Automatic Identification System (AIS) data. These lists were also used during the TTX portion of the exercise. All RCCs were comfortable with their ability to assess vessel traffic in the Arctic area and establish a clear surface picture in maritime domain (i.e., by means of AIS, AMVER, or NORDREG).

   Note: A review of these assets highlighted a large number of air and surface assets could potentially be available, but must travel from great distances. This would likely result in very significant transit time, limited duration on site and restricted capability to hoist/recover and transport passengers to safety. While most SAR agencies can get an air asset on-scene within 2-14 hours, these air assets can only assess the situation and provide limited assistance before having to depart the area. *Large passenger vessels should not expect any significant SAR assets for the first 72-96+ hours due to the vast distance between aircraft bases and remote locations within the NWP.*

2. Review the Crystal Cruises North West Passage Emergency Response Plan (NWPERP). *<<Achieved>>*

   Throughout the planning process, the NWPERP was reviewed and updated numerous times by both the U.S. and Canadian agencies. At the exercise the NWPERP was referenced and reviewed to determine that key information was properly documented. Several contact numbers were identified that needed updating to align with various agencies recommendations. Crystal Cruises intends to provide the agencies with updated NWPERP prior to the start of the vessel's departure on their NWP voyage.

3. In response to the exercise scenario: Discuss coordinated search and rescue procedures. *<<Achieved>>*

   The governmental SAR agencies (USCG, DOD, and CCG) have established both national and international policy/guidelines (e.g. IAMSAR Manual), and share common SAR procedures and methodology. Both domestic and IAMSAR plans clearly establish jurisdiction and protocols for mutual aid. The establishment of the SAR Coordinator or SAR Mission Coordinator as the person in charge is clearly understood and respected particularly when establishing jurisdiction near the U.S. and Canadian border.

During the TTX, the RCCs discussed existing procedures and capabilities to ensure a smooth and seamless workflow through effective communications, establishing a common operational picture, and ID of potential response resources. SAR coordination appeared seamless from the RCCs to the State, Territories and local governments.

4. Assess the notification and communication processes. <<*Achieved*>>

Communications routinely occurs between transiting vessels and RCCs in the Arctic. Most ships use a combination of communication options available to them (e.g. VHF, MF, HF, SAT PHONE, SatCom (email), etc) to communicate with other vessels and regulatory agencies. Both U. S. and Canadian Coast Guard communication in the region is generally well covered via above mentioned options. The Canadian Coast Guard ship reporting system Northern Canada Vessel Traffic Services Zone – Arctic Canada VTS zone (NORDREG) covers the Arctic region. Crystal Cruises IAMSAR establishes day-to-day communications with its vessels via SAT Phone. During the TTX, both the Coast Guards identified several known VHF MF, HF "dead zones," but expressed that overall communication with ships is still very reliable by the various means. NORDREG stated that a considerable amount of communications with commercial traffic was via email (SatCom). USCG concurred that communications for their zone is reliable and they are able to gain an accurate surface picture of vessel position and transit using both satellite and terrestrial AIS systems.

For any incident, Crystal Cruises intends to utilize a proprietary WEB EOC software system that would allow company officials to establish situational awareness and communications with the ship while virtually standing up their Emergency Operations Center (EOC) as they travel to their home EOC located in Los Angeles, CA.

During an incident, all participants agreed that they preferred establishing a single open conference line for joint briefings during the initial and assessment phase.

As the incident increased in intensity, the RCCs recognized that further contact with the ship needed to be reduced to allow the vessel master to manage the vessel incident. Communications between the SAR services and the vessel then flowed though the company's EOC until resources were able to arrive on-scene.

Due to the considerable lead time necessary for SAR response assets to get on-scene, all SAR responders/coordinators agreed that advanced notification early in the incident was critical to establish full situational awareness.

All participants agreed that notification of Departments of State (for all nationalities onboard) by the lead RCC should be conducted as soon as possible to allow the appropriate POCs to be in place early to address the movement of international citizens and communicate situational awareness. One way to ensure this is to include the Department of State on the USCG/CCG SAR Quick Response Cards (QRC) for agency command centers. In addition, a passenger manifest from the cruise line would be essential.

5. Discuss the process for command and control coordination between USA/Canadian/OGA/Industry responders. <<*Achieved*>>

   Command, control and delineation of responsibilities for responding agencies are clearly outlined in the International Aeronautical and Maritime Search and Rescue Manual (IAMSAR) and National SAR Supplement (NSS0 manuals. This includes command and control of SAR operations down to their respective local authorities.

   For this TTX, the exercise scenario placed the incident in Canadian waters near the Canadian/U.S. border. Command and control of maritime operations was assumed by the Canadian Coast Guard. They also coordinated assistance for the shore side transition with Joint Task Force North (Canadian National Defense and Armed Forces) at Yellowknife NW Territories; who further coordinated with the Territorial Governments. This follows the IAMSAR and NSS manuals.

   The USCG similarly would assume command and control in U.S. waters with coordinating notifications to supporting federal agencies to include DOD/ U. S. Defense Support of Civil Authorities (DSCA) engagement, and chain reaction notifications and response via the State of Alaska and Borough emergency services.

   The State of Alaska Division of Homeland Security and Emergency Management (DHSEM) played a critical role as the key interface between federal, state and local EMS responders. DHSEM is fully integrated with U.S. RCCs and maintained a semi-staffed EOC.

6. Identify operational, logistical and accountability requirements for the safe waterside transport of survivors. <<*Partially Achieved*>>

   This objective was partially covered during the workshop portion of the exercise. Due to exercise time constraints during the TTX, the discussion of responsibilities for the moving evacuees from water to shore was not fully explored.

   Modern day cruise ships have some of the most sophisticated designs, materials and technologies available and comply with well established SOLAS lifesaving equipment regulations. Along with some of the best trained crews and ship management systems on the high seas, these vessels have been designed to be their own best lifeboats.

   a. The evacuation of any vessel at sea, particular a high capacity passenger vessel, is difficult under any circumstance and is the last possible option for the vessel master. Once the abandon ship order occurs, the greatest challenges, in any environment, is the movement of survival crafts significant distances off-shore toward shore due to the limited speed and towing capacity of the lifeboats. Because life rafts are not powered and must be towed they must be retrieved and marshaled around lifeboats.

Lifeboats and life rafts are not designed to hold survivors for long periods of time nor travel large distances unescorted. They also don't have any overnight or hotel services. The maximum number of passengers per lifeboat is 150 persons requiring everyone to sit side by side in a very confined space with little room to move. Recovery of survivors in lifeboats and rafts is also very difficult. Free board alignment issues are likely to occur between responding vessels and the cruise ship and/or lifeboats, making the transfer of passengers/ crew at sea dangerous and time consuming. Without the right configurations of the responding vessels, each passenger must slowly exit through a small doorway and stand on the railing before moving to the rescue vessel. Airlifting survivors, many of whom represent a wide range in demographics, out of a raft or lifeboat often requires the survivor to enter the water before hoisting can occur. This poses a very difficult challenge for any large response efforts when adequate resources and capability may be days away. Reducing the length of time a survivor has to remain in a lifeboat or raft becomes critically important to reduce any further causalities.

Note: *To address some of this concern, Crystal Cruises chartered the RRS ERNEST SHACKLETON as an escort ship. The ERNEST SHACKLETON is classed as a 1A1 Super icebreaker with 75 tonnes bollard pull towing capacity. For this voyage the ERNEST SKACKLETON will carry ~ 30 expeditionary small boats (rubber boats inflatable) and two light duty helicopters. For emergency purposes, the ERNEST SKACKLETON can also accommodate ~600 additional persons on board. This will greatly alleviate the limitation of persons in lifeboats /rafts and allows for further mobility of evacuees while increasing survivability.*

b. A key function of any MRO incident operation is accounting for every passenger and crew from the ship to rescue platforms; then to land. It is very challenging and drives the operational length of the response. Many cruise ships utilize key cards or bracelets for ship board services which can also act as accountability tracking mechanisms during excursions and normal operations. Challenges with key cards, as with passports, are to ensure passengers have these when they disembark.

   Whatever the critical passenger evacuation items are (key cards, passports, medication, proper clothing etc.), ships plans and processes should identify and reflect them. Ensuring passenger have them could be reinforced during SOLAS lifeboat muster drills and orientation.

7. <u>Identify shore side operational, logistical and accountability requirements for continued survivor care and transport</u>. *<<Partially Achieved>>*

   Due to the limited time available during the TTX, this topic did not receive in-depth discussion to fully cover the exercise objective but was discussed during the workshop.

   Each SAR Agency recognizes the risks and logistics challenges posed by mounting a response into the Arctic region characterized by sparse resources and infrastructure. This

may necessitate the need to surge resources to facilities/infrastructure closest to the incident and then "lily padding" resources and personnel back and forth.

While not identified or discussed at the exercise, the key shore side response issues involve: medical service/triage, people accountability, clarity of command, sheltering, personal care, local and long range transportation, community impact issues, etc.

Medical and trauma facilities are limited in the Arctic and would necessitate medical evacuation to higher level trauma centers south using either commercial or military transportation.

Risk assessments based on the concentration and type of marine transportation in the Arctic should be conducted by governmental agencies and utilized to determine contingency planning, exercises, and resource allocation needs.

Note: *A follow-on discussion to address MRO operations shore side would be beneficial if additional large passenger vessel continue to transit the Arctic and the NWP.*

8. Discuss / evaluate the process for transition of command from the SAR phase to the Post-SAR phase. *<<Partially Achieved>>*

Due to the length of time spent discussing SAR operations during the TTX, this objective was not fully covered. However, this was partially covered during the workshop portion of the exercise.

All the RCCs and participants generally agreed that having a clear understanding of when SAR operations end and non-SAR operations begin is important. Once that determination is made, priorities could then fully shift towards non-SAR/post-SAR operations.

Depending on the circumstances, key post-SAR response operations may include:

- Pollution/hazmat response
- Vessel salvage
- Remote community recovery
- Accident / security investigations

Both Coast Guards were very comfortable with current post-SAR preparedness activities due to the extensive number of post-SAR related exercises conducted under other programs on a regular basis. As an example, in the U. S. as a direct result of the Oil Pollution Act of 1990 (OPA 90), statutes require extensive planning and scheduled exercises involving industry and the USCG. Canada has a similar program managed by Transport Canada.

Note: *It is important to make clear distinctions of when the humanitarian crisis and responsibilities of SAR/ Other Government Agencies (OGA) assets ended and*

industry responsibilities began for the care of their passengers and crew (e.g. secure the safety of evacuees ashore and having industry assume responsibility for their follow-on care and transportation).

Limiting Factors:

For the exercise, the USCG D17 (Prevention) branch, which led the planning and hosted the exercise, did not have access to a standalone laptop computer and projector. A standalone laptop computer from USCG D17 (dxc) was used during the seminar and TTX. This proved very resourceful as most of the presentations, which were from industry and other agencies, required the use of non-encrypted mass storage devices to transfer presentations and materials to the laptop computer.

Multiple time zone differences between Juneau, AK, Ottawa, ON and Los Angeles, CA complicated the planning process. (i.e., 8:00 work day start in Alaska was already lunch time in Ottawa. In addition, Crystal Cruises Port Captain was attending vessel dry-docks in Asia which also complicated the ability for all parties to participate in meetings and teleconferences.

This exercise was a challenge for the JDT due to the complexity of the table top exercise and the broad audience of observers and players. The JDT opted to have a half-day workshop on the first day; followed by a discussion led TTX the following day. This allowed for more information to be conveyed and in an interesting format. This format was more effective than the typical construct to conduct a seminar and sometime later conducting a TTX. A two day event combining a seminar directly followed by a TTX was effective – a consideration for future/similar exercises.

Participants: Approximately 56 personnel, representing over 30 organizations, signed in and attended the informational workshop and TTX.

Represented organizations:
Crystal Cruises
U.S. Coast Guard (USCG):
- 17th Coast Guard District (CGD17) – Contingency Preparedness Branch (dpi)
- CGD17 – (DXC)
- Sector Anchorage
- Public Affairs Detachment Anchorage
- U.S. Embassy (Ottawa)
- Airsta Kodiak

Canadian Coast Guard (CCG):
- Environmental Response – Pacific
- Maritime Services - Pacific
- Marine Communications and Traffic Services (MCTS) - Prince Rupert
- Environmental Response - National Capital Region

Department of Defense (DOD):
- ALCOM
- Alaska Regional Command Center (AK RCC)
- Air National Guard (ANG)

U.S. Federal Resource Trustees:
- DOC – Department of Commerce
  - NOAA- National Oceanic and Atmospheric Admin
  - NWS - National Weather Service
- DOI - Fish and Wildlife Service (FWS)
- CBP – Customs and Border Patrol

State of Alaska:
- AST – Alaska State Troopers
- Div of Health and Emergency Management
- Div of Health and Social Services
- University of Alaska (Fairbanks and Anchorage)
- Dept of Transportation (DOTIPF)

Transport Canada - Marine
Northslope Borough
SAR - Search and Rescue
ICAS - Inupiat Community of the Arctic Slope
Kawerak, Inc (Eskimo Walrus Commission)
Port of Nome
Port of Unalaska
Cruise Line Agency of Alaska (CLAA)
United Kingdom P & I Club

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