



THE NEED FOR SEA-TO-SHORE CONNECTOR TRAINING FOR HUMANITARIAN AID AND DIASTER RELIEF OPERATIONS

Lieutenant-Commander Mitchell Lane

JCSP 50

Service Paper

Disclaimer

Opinions expressed remain those of the author and do not represent Department of National Defence or Canadian Forces policy. This paper may not be used without written permission.

© His Majesty the King in Right of Canada, as represented by the Minister of National Defence, 2024.

PCEMI n° 50

Étude militaire

Avertissement

Les opinions exprimées n'engagent que leurs auteurs et ne reflètent aucunement des politiques du Ministère de la Défense nationale ou des Forces canadiennes. Ce papier ne peut être reproduit sans autorisation écrite.

© Sa Majesté le Roi du chef du Canada, représenté par le ministre de la Défense nationale, 2024.

CANADIAN FORCES COLLEGE - COLLÈGE DES FORCES CANADIENNES

JCSP 50 - PCEMI n° 50
2023 - 2024

Service Paper – Étude militaire

**THE NEED FOR SEA-TO-SHORE CONNECTOR TRAINING
FOR HUMANITARIAN AID AND DIASTER RELIEF OPERATIONS**

Lieutenant-Commander Mitchell Lane

“This paper was written by a candidate attending the Canadian Forces College in fulfilment of one of the requirements of the Course of Studies. The paper is a scholastic document, and thus contains facts and opinions which the author alone considered appropriate and correct for the subject. It does not necessarily reflect the policy or the opinion of any agency, including the Government of Canada and the Canadian Department of National Defence. This paper may not be released, quoted or copied, except with the express permission of the Canadian Department of National Defence.”

« La présente étude a été rédigée par un stagiaire du Collège des Forces canadiennes pour satisfaire à l'une des exigences du cours. L'étude est un document qui se rapporte au cours et contient donc des faits et des opinions que seul l'auteur considère appropriés et convenables au sujet. Elle ne reflète pas nécessairement la politique ou l'opinion d'un organisme quelconque, y compris le gouvernement du Canada et le ministère de la Défense nationale du Canada. Il est défendu de diffuser, de citer ou de reproduire cette étude sans la permission expresse du ministère de la Défense nationale. »

THE NEED FOR SEA-TO-SHORE CONNECTOR TRAINING FOR HUMANITARIAN AID AND DISASTER RELIEF OPERATIONS

AIM

1. This paper aims to provide a recommendation on where the Royal Canadian Navy (RCN) should focus training to meet future ship capabilities. The focus of this service paper will be on the PROTECTOR Class ship (Joint Support Ship (JSS)), and its sea-to-shore connectors (i.e. landing craft) capability in a Humanitarian Aid and Disaster Relief (HADR) context. The recommendation will include training and a proposed ship team complement.

INTRODUCTION

2. The RCN will be receiving new ships over the coming ten years. These include the remainder of the Arctic and Offshore Patrol Vessels (AOPV), the Joint Support Ships (JSS), and the Canadian Surface Combatant (CSC). These ships will include new capabilities that the current RCN training system is not yet prepared for but is still agile enough to pivot to ensure that future sailors are fully trained and prepared for their new roles. These new capabilities include but are not limited to new strike capabilities, variable depth sonar, Naval Gun Support (NGS), and sea-to-shore connectors, amongst many others. This paper will identify future issues that can be mitigated by training and selecting the correct team onboard the ship to operate the sea-to-shore connectors.

3. The JSS will come with a substantial sea-to-shore connector that the RCN last operated almost a decade ago. The last ship with a similar size sea-to-shore connector was HMC Ships PROTECTEUR and PRESERVER, decommissioned in 2015 and 2016, respectively.

DISCUSSION

4. Canada's most recent defence policy, *Strong Secure Engaged*, highlights the HADR requirement for the RCN: “Beyond Canada’s shores, the capability to undertake peace operations, including effectively rendering humanitarian assistance and relieving distress [...] Canada’s naval forces will also be positioned to contribute meaningfully to joint action ashore and support the sustainment of joint operations from sea.”¹ The RCN's current fleet can meet this requirement, and the current HADR model includes providing aid to local communities, either in a domestic context or expeditionary, by using the ship's Rigid Hull Inflatable Boats (RHIB) or by helicopter. However, the new capability of the JSS will highlight just how much more capable and proficient it is by the amount of provisions that can be transferred when it uses the sea-to-shore connectors.

¹ Department of National Defence. *Strong Secure Engaged, Canada’s Defence Policy* (Ottawa: Canadian Defence Academy, 2017,), 35, <https://www.canada.ca/content/dam/dnd-mdn/documents/reports/2018/strong-secure-engaged/canada-defence-policy-report.pdf>

5. The Pan-Domain Force Employment Concept (PFEC), although not doctrine, highlights where the Canadian Armed Forces (CAF) ought to be proficient when focusing on broad interoperability with respect to joint operations. “The contemporary operating environment is highly dynamic, requires diverse combinations of capabilities from across the CAF, and involves frequent collaboration with allies and partners as well as the Whole of Nation (WoN) team”² In this context, joint operations will be defined as more than one environment operating together.

- a. The RCN is well equipped to fight a joint war with the Royal Canadian Air Force (RCAF), as there is typically an air detachment onboard most deployed ships. The RCN regularly operates with a helicopter when conducting anti-submarine warfare. In a HADR operation, the ship's helicopter could conduct Vertical Replenishments (VERTREP) to transport supplies from the ship to shore. A VERTREP is limited by what the helicopter can carry compared to what a ship-to-shore connector can transport.
- b. However, the RCN rarely trains or deploys with the Canadian Army (CA). This missed opportunity could be gapped by limited amphibious landings in a permissive environment as part of a force generation exercise. This paper is not suggesting that the ship-to-shore connector be used in wartime for an amphibious assault. This paper suggests that the RCN training with the CA while using the ship-to-shore connector, could be the start of an effective joint training initiative.

HUMANITARIAN AID AND DISASTER RELIEF OPERATIONS

6. HADR operations usually have little to no warning, and the military's role is typically to provide a capability that a Non-Governmental Organization (NGO) or government is not able to provide. The military is usually called as a last resort once all other avenues, including various levels of host nation government and NGOs, are exhausted.³ When the military arrives in the theatre by invitation of the host nation, they are usually on station until the host nation is set up to take care of themselves.

7. When militaries are providing assistance in a HADR situation, the military “should, to the extent possible, not encompass direct assistance, in order to retain a clear distinction between the normal functions and roles of humanitarian and military

² Department of National Defence. *Pan-Domain Force Employment Concept Prevailing In A Dangerous World* (Ottawa: Canadian Joint Operations Command, 2023), 30

³ “Guidelines On The Use of Foreign Military and Civil Defence Assets In Disaster Relief - ‘Oslo Guidelines’ ,” 1.1, November 2007, 9, <https://www.auswaertiges-amt.de/blob/254414/15764bcaa23982ccaa19a82c59277d70/oslo-guidelines2-data.pdf>

stakeholders.”⁴ As an example of direct assistance, military members would be conducting direct assistance by distributing bottled water to those in need. In contrast, an indirect assistance example includes the military delivering bulk bottled water to an NGO for their delivery. Indirect assistance is where the military is best suited to operate. The JSS would be able to provide the RCN with an indirect assistance capability by allowing the delivery of humanitarian goods ashore via the sea-to-shore connectors.

8. The initial phases of the operation would focus on delivering food, water, shelter supplies, medical equipment, and general maintenance equipment. These supplies could either be embarked at a port nearby, or the JSS could always retain a minimum amount of HADR equipment onboard for immediate response. Depending on the cargo manifest of a JSS at sea, the JSS may not have the capacity to embark on what is required for the HADR operation, depending on the scale of the operation and the needs of the local population. This limitation could require a port visit to disembark fuel in order to make room for HADR equipment and supplies if the JSS. This would be very limiting as locating a port facility to take all of that fuel would be difficult based on the sheer volume of it.

9. Continuous operations will be required when conducting HADR operations, specifically in the initial phases. The JSS's role when at sea will typically be for supply and replenishment at sea. When the ship is conducting HADR operations, an assumption will be made that the ship will be either at anchor or in a patrol area close to the shore. The boatswains onboard the JSS would typically be onboard to support replenishments at sea. If at anchor supporting a HADR, they may not be gainfully employed with their replenishment at sea tasks while doing this mission style and could be employed elsewhere.

CONTINUOUS OPERATIONS

10. During a HADR operation, the ability to quickly send supplies to the area in need is of utmost importance. The initial phase of delivering goods and supplies will require continuous operations. After the initial assessment of the situation, depending on the needs of the population in distress, there will be a requirement to sequence the delivery of the goods. For example, food and water will likely be delivered first, but shelter or debris-clearing equipment will need to be prioritized later.

11. As part of the concept of use (CONUSE), the capability that the ship-to-shore connector could provide “include the ability to ferry specialized equipment such as fuel bladders, vehicles, water buffalos, and food kitchens or other assets drawn from ashore or

⁴ “Guidelines On The Use of Foreign Military and Civil Defence Assets In Disaster Relief - ‘Oslo Guidelines’ ,” 1.1, November 2007, 9, <https://www.auswaertiges-amt.de/blob/254414/15764bcaa23982ccaa19a82c59277d70/oslo-guidelines2-data.pdf>

available shipboard resources to support operations.”⁵ This has not been a capability that the RCN could complete at this scale in quite some time. This capability can be critical to supporting a HADR operation provided the crews are trained, equipment is well maintained and serviced, and the capability is in the correct location.

12. The counterargument against the continuous HADR operations is that the JSS cannot concurrently conduct replenishments at sea with other ships in the area while using the ship-to-shore connector. Depending on the local situation, there could be a large amount of ships requiring fuel or provisions. However, the local on-scene commander will determine this tactical-level prioritization decision.

13. In order to sustain 24/7 operations, there should be multiple crews to reduce fatigue, maintain proficiency, and ensure timely delivery of supplies. There will likely need to be four crews plus one crew as backup. This number of crew will allow the ship's commanding officer to decide on the shift rotation. The viable options could include a split one-in-two, one-in-three, or a one-in-four rotation. This will provide the flexibility required depending on the tactical situation. The proposed crews will include an Officer in Charge (OIC), a Maritime Technician (MARTECH), and three Boatswains.

TRAINING

14. The decision for who gets trained and what they are trained on should be carefully considered. There should be two sea-to-shore connectors OIC courses: one for Naval Warfare Officers (NWO) and another for Boatswains. The size of the sea-to-shore connectors is substantially closer to the size of an Orca class patrol vessel than the RHIB. The sea-to-shore connector's ship also handles closer, albeit it is not the same, to the orca than the RHIB. The NWOs receive initial phase training on the Orca class patrol vessel, and boatswains receive training on the RHIB. Neither platform is ideal for sea-to-shore connectors. However, given the current training environment and associated qualifications, the ship handling and collision regulations are only offered to NWOs. The training that NWOs receive would be put to use when operating a ship-to-shore connector, given its size and maneuvering characteristics.

15. The CONUSE indicates that the ship-to-shore connector is "designed for use with Protecteur-class ships [JSS] due to the specialized hull-mounted connector hard points required for in-water assembly.”⁶ This training around in-water assembly of the ship-to-shore connector will also need to be integrated into a separate course for the Boatswains. The need to determine if this can be assembled while the ship is underway or if only at anchor will also need to be determined.

⁵ Canada. Department of National Defence. *RCN CONUSE For Sea To Shore Connector*, (Ottawa. Assistant Chief of Naval Staff (Afloat Training & Readiness), 2021), 2

⁶ Canada. Department of National Defence. *RCN CONUSE For Sea To Shore Connector*, (Ottawa. Assistant Chief of Naval Staff (Afloat Training & Readiness), 2021), 1

16. There has been an Initial Cadre Training (ICT) for a small group of sailors within the RCN who were trained by the manufacturers. The ICT has trained NWOs, Boatswains, and MARTECHs. The RCN will now have to ensure that the training that the sailors received is integrated into our training plans. The lessons observed that were identified from the ICT must be annotated appropriately and integrated into the follow on training.

17. Based on the current training system and the needs, the sea-to-shore connectors should have an NWO as the OIC during the first years of having a sea-to-shore connector. This recommendation is based on the collision regulations and ship handling that are covered with NWO phase three and four training. After the initial period and more sailors are trained, a course should be developed to train boatswains on more complex ship handling and collision regulations as it relates to the ship-to-shore connector.

18. The NAVORD 4500-30 Surface Command Preparation, Assessment, Qualification, and Selection Process⁷ requires all NWOs to record their evolutions conducted in a virtual logbook. There has yet to be a location identified within Monitor Mass to include the training with a ship-to-shore connector. However, there will be a requirement to record the training that was completed. This will include both simulator training and real-world training. The training will be included in the amount of time operating the sea-to-shore connectors, the number of emergencies conducted, what was transferred, etc. This data will inform the Chain of Command (CoC) who has conducted a particular type of training and, therefore, who the most experienced sailors are with this equipment.

19. Once the JSS is received, a trial will be required to determine the sea state and wind limits of the in-water assembly. During the same trial, it is recommended to determine if the JSS could create its lee to reduce the impact of the sea state by manoeuvring in a continuous circle. Additionally, the maximum sea state and wind limitations for safe operation must be confirmed after the ship-to-shore connector is assembled in the water.

20. Once the JSS are fully crewed, the training for the sea-to-shore connectors should be treated like an OIC Orca class patrol vessel qualification. A new course and qualification will need to be developed, which will include the required training on ship handling, damage control exercises, sailor overboard exercises, engineering drills, beach recce, simulator driving, and real-life driving.

21. Another way to obtain this training is to investigate options for having personnel exchanges to the United Kingdom to operate with the Royal Navy (RN) or Australia with the Royal Australian Navy (RAN) on their Mexeflote sea-to-shore connector. The RN

⁷ Canada. Department of National Defence NAVORD 4500-30 Surface Command Preparation, Assessment, Qualification, and Selection Process (Ottawa, 2021)

and RAN have operated a similar style of sea-to-shore connector to the RCN. They would be able to practice and communicate best practices, limitations, and other critical information. This newly acquired information could be fed back into the training system and adjusted the training accordingly.

CONCLUSION

22. In order to meet the HADR requirements laid out in Canada's latest defense policy, Strong, Secure, Engaged, and to further conduct joint operations as laid out in PFEC with both the RCAF and CA, the RCN has many opportunities ahead. Firstly, an opportunity exists to take advantage of the training window to train RCN sailors to operate its ship-to-shore connector. Secondly, it can also meet joint training objectives by operating the ship-to-shore connector with the CA. As long as the training is appropriately sequenced, the RCN will be able to respond in a larger capacity to a coastal-based HADR mission that the Government of Canada (GoC) asks of it. Before the RCN can provide this capability, the RCN must train its sailors with the new capability before it arrives. If sequenced properly, the RCN can train its sailors before the JSS becomes fully operational capable (FOC).

RECOMMENDATION

23. Based on the discussion above, in order to be able to provide 24/7 ship-to-shore operations during a HADR operation from a JSS, the following are recommended:

- a. Creation of two sea-to-shore connectors OIC courses:
 - i. A NWO course; and
 - ii. A Boatswains course.
- b. Integration of the ship-to-shore connector assembly training into the Boatswains training;
- c. Each JSS is to have four sea-to-shore connectors teams, as secondary duties, consisting of:
 - i. 1x OIC Sea-to-shore connector qualification:
 1. 1 x Lt(N) NWO; or
 2. 1x PO1 Boatswain.
 - ii. 3x S1-PO2 Boatswains; and
 - iii. 1x S1-MS MARTECH.

- d. Investigate options to have personnel exchanges to the United Kingdom to operate with the Royal Navy or to Australia with the Royal Australian Navy on their Mexeflote sea-to-shore connectors.

Annex A – Figures of Ship-to-Shore Connector

ANNEX A



Figure 1: Photo of ship-to-shore connector in action during ICT

Bibliography

- Canada. Department of National Defence. NAVORD 4500-30 Surface Command Preparation, Assessment, Qualification, and Selection Process, Ottawa, 2021
- Canada. Department of National Defence. *RCN CONUSE For Sea To Shore Connector*, Ottawa. Assistant Chief of Naval Staff (Afloat Training & Readiness), 2021
- Canada. Department of National Defence. *Pan-Domain Force Employment Concept Prevailing In A Dangerous World*. Ottawa: Canadian Joint Operations Command, 2023.
- Canada. Department of National Defence. *Strong Secure Engaged, Canada's Defence Policy*. Ottawa: Canadian Defence Academy, 2017.
<https://www.canada.ca/content/dam/dnd-mdn/documents/reports/2018/strong-secure-engaged/canada-defence-policy-report.pdf>
- “Guidelines On The Use of Foreign Military and Civil Defence Assets In Disaster Relief - ‘Oslo Guidelines’ .” 1.1., November 2007. <https://www.auswaertiges-amt.de/blob/254414/15764bcaa23982ccaa19a82c59277d70/oslo-guidelines2-data.pdf>.