

HIGHLIGHTS OF REVIEW OF CANADA'S SHIP-SOURCE SPILL PREPAREDNESS AND RESPONSE: HAZARDOUS AND NOXIOUS SUBSTANCES



[Clear Seas](#) is an independent, not-for-profit organization that provides impartial and evidence-based research to inform the public and policy makers about marine shipping in Canada.

Accordingly, we are providing this digest on Transport Canada's Tanker Safety Expert Panel's second report titled [A Review of Canada's Ship-Source Spill Preparedness and Response: Setting the Course for the Future, Phase II - Requirements for the Arctic and Hazardous and Noxious Substances Nationally](#). This digest covers Chapter 2 on **Hazardous and Noxious Substances**.

This digest is not meant to be inclusive of all the Review's commentary and/or recommendations, nor are the items mentioned necessarily in the same order as the original report.



MESSAGE FROM THE EXECUTIVE DIRECTOR

Whenever we think of pollution spills from ships we tend to think of them in terms of oil they may be carrying as cargo, or in some cases the fuel oil carried for their own power needs. But ships carry other Hazardous and Noxious Substances (HNS) that potentially carry great risk of pollution in case of an accident or shipping mishap.

Unlike Canada's oil spill response regime, there is currently no similar regulatory program in place for HNS preparedness and response. This situation needs to be rectified and this chapter of the report goes some way to doing just that.

Of particular interest to Clear Seas were the recommendations for Canada to accede to the international [OPRC-HNS Protocol](#), for Transport Canada to develop requirements for vessels that carry HNS in any form, expanded training for the Canadian Coast Guard, regional planning and delineation of the role of ship owners. We urge their serious consideration and adoption.



DR. RICHARD WIEFELSPUETT
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CHAPTER 1

Hazardous and Noxious Substances (HNS)

Hazardous and noxious substances (HNS)¹ are moved in and out of Canadian ports every day. Countless products are safely transported, either as bulk liquids or solids in specialized vessels or packaged and carried among general cargo on container vessels.

Unlike oil, there are many different types of HNS products being shipped (well into the thousands). The diverse behavioural properties of each substance create preparedness and response complexities not seen for oil. Despite the relatively low risk of a ship-source HNS spill, the potential impacts of a release, should one occur, could be harmful to human health and the environment.

Using a certified Response Organization model (as is the arrangement for oil spill responses south of the 60th parallel) is not considered to be a viable approach. The preferred model, from the panel's perspective, is to increase requirements for the ship and facility owners to identify, in a plan, the suite of potential response options, tactics and equipment that could be employed from multiple providers depending on the incident and products involved.

The report discusses a number of international and domestic requirements that are currently in place to reduce the risks of ship-source HNS releases, as well as the provisions for liability and compensation in the event of a release.

Globally, the lack of a formalized and coherent approach to HNS preparedness and response has led the International Maritime Organization (IMO) to renew its efforts on this, resulting in the development of the [Protocol on Preparedness, Response and Co-operation to Pollution Incidents by Hazardous and Noxious Substances, 2000](#) or **OPRC-HNS Protocol** for short.

The key elements of the Protocol include: requirements regarding pollution incident emergency plans for prescribed vessels; HNS handling facilities and seaports; a national contingency plan and exercise program that includes HNS; a minimum level of pre-positioned equipment; and arrangements to help coordinate and facilitate the response to an HNS incident, including international cooperation.

While Canada has not yet ratified the OPRC-HNS Protocol, some 33 countries are signatories, including Australia, Denmark, France, Germany, Japan, Norway, and Sweden.

The report takes the view that Canada should take the necessary steps to sign on to the Protocol, including developing a national HNS preparedness and response program.

1 The International Maritime Organization defines HNS as "any substance other than oil which, if introduced into the marine environment, is likely to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea."

It also makes recommendations for Transport Canada to develop requirements for vessels that carry HNS in any form - bulk, packaged, liquid, solid, and gaseous - to have HNS Response Plans. These would go beyond some existing measures established in various IMO Codes, to include such activities as identifying response resources that could be called in to address varying scenarios, training for crews, exercises, and a shore-based response coordinator to advise on or coordinate the response and act as a liaison between the ship owner and government authorities. Similar requirements are proposed for facilities involved in transferring HNS to and from ships.

To ensure that all interested parties are aware of their roles and responsibilities for preparing for and responding to an HNS incident, this information should be outlined in an overarching National Contingency Plan. To that end the Canadian Coast Guard, in collaboration with Transport Canada, Environment Canada², Public Health Agency of Canada, Health Canada and Public Safety Canada, should lead the development of such a plan for ship-source releases of HNS that are of national significance.

Regional Planning

The varied types of HNS being shipped and their diverse behavioural properties create complexities not necessarily found in oil spills. That is because the potential release scenarios for HNS are virtually endless.

The panel felt the Canadian Coast Guard should lead regional planning, which would be an adapted version of the Area Response Planning process outlined in their first – south of the 60th parallel – report. The objective would be to understand the general marine movements of HNS within a region, and who would be involved in a response, including representatives from industry, private sector responders, local first responders, and federal monitors.

National Exercise Program

To validate regional planning under the National Contingency Plan, elements of the plans, as well as senior officials' decision-making, should be exercised on a regular basis. This would reinforce an understanding of roles and responsibilities, maintain relationships among all key players, and

2 Environment Canada has now changed its name to Environment and Climate Change Canada.

ensure the effectiveness of procedures, arrangements, resources and decision-making.

To that end the Coast Guard should develop and maintain a national exercise plan to regularly validate both the National Contingency Plan for HNS and region-specific planning and readiness.

For their part, Environment Canada and Fisheries and Oceans Canada should improve their ability to respond to HNS incidents and participate in preparedness activities, including; regional planning and exercises; carrying out R&D in support of operational systems; as well as providing scientific expertise and HNS modelling capabilities during an HNS incident in support of the response.

Canadian Coast Guard Capabilities

Due in part to the low incidence of HNS spills in Canadian waters, the Coast Guard does not currently possess the expertise to respond to HNS incidents. Such experience is difficult to obtain and maintain. Nonetheless, it is critical that they acquire and have sufficient knowledge of the intricacies and complexities of an HNS incident to fulfill its role for responding to HNS releases.

Consequently the CCG should ensure that its officials have the appropriate training to develop new expertise and competencies required to carry out its prescribed functions under the proposed HNS program. And that it has the flexibility to quickly contract with appropriate technical experts and responders in the event a polluter is unknown, unwilling or unable to respond to an HNS release.

In the same vein there are clear benefits for the Coast Guard understanding the types of resources ship and facility owners identify in their respective spill response plans. Consequently, the report encouraged Transport Canada and the Coast Guard to develop a collaborative mechanism to ensure that the latter has access to the information on industry's plans that will benefit its function as Federal Monitoring Officer and On-scene Commander.

Continuous Improvement

As it did for Arctic spills and oil spills south of the 60th parallel, the Panel identified a need for better awareness and engagement to foster public confidence in the measures in place to protect the public from the consequences of spills. It also acknowledged that there is data missing from

Canada's HNS risk picture, particularly related to packaged HNS and that on-going understanding of the risk will require access to better data on what is transported in Canadian waters. In addition, that government scientists need a better understanding of the fate, behavior, and effects of HNS, so that they may inform response measures in the event of a release.

Thus, for the purposes of developing government policies and for preparing for incidents, Transport Canada should work with the Canadian Coast Guard to gather data on the movements of HNS in Canadian waters, including both bulk and containerized shipments. This database should incorporate information from all applicable sources. It is also important for government and industry to improve the process for sharing cargo manifests and stowage plans in a timely manner in the event of an HNS incident.

Conclusion

In summary, a Canadian ship-source HNS incident preparedness and response program should be in line with the basic elements of the international regime, but should also integrate additional elements to address current and future Canadian realities.

The program should build bridges between the existing marine prevention, preparedness and response programs as well as the respective (public and private) knowledge and expertise that support them. In this latter regard it should enable the participation of a wide variety of stakeholders that can contribute to the effective management of HNS releases, be scaled to risk, but applied nationally, including to the Arctic.

The program should be structured to build capacity in industry to prepare for and respond to ship-source HNS incidents, as well as releases that could occur during the handling of product between land-based facilities and vessels.

Finally, the program should build on and utilize the technical expertise available in the HNS producer industry to inform effective responses; and leverage expertise and research that is available internationally.