



**Panel Review Phase II:  
Hazardous and Noxious Substances**

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**Submitted to the Tanker Safety Expert Panel**

28 March 2014

**SHIPPING FEDERATION OF CANADA**

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## **Executive Summary:**

The Shipping Federation of Canada, incorporated by an Act of Parliament in 1903, is the representative of the owners, operators and agents of ocean ships trading at ports across Canada, from the Atlantic to the St. Lawrence and Great Lakes to the West Coast. We wish to make the following comments and recommendations with respect to the development of Canada's Ship-source Hazardous and Noxious Substances (HNS) Incident Preparedness and Response Regime:

### **General Positions:**

- At this stage, it is essential to develop a detailed picture of the HNS that are currently carried in Canadian waters, based on type, volume and port of entry. As far as international carriers are concerned, this information should be available through the declarations received by the Canada Border Services Agency (CBSA). Once such a picture has been developed, the risks associated with carrying HNS in Canadian waters can be assessed by using 1) the database of incident occurrences in Canada and elsewhere in the world and (2) the various HNS product databases.
- Canada's future HNS spill regime must abide by the international agreements developed by the International Maritime Organization (IMO).
- The future regime must provide adequate levels of service at a reasonable cost without compromising the degree of preparedness or environmental protection necessary. The oil preparedness and response regime, which has been in place for over two decades, provides an excellent template for the development of an HNS regime.



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# SHIPPING FEDERATION OF CANADA

## SUBMISSION ON CANADA'S MARINE HNS PREPAREDNESS & RESPONSE REGIME

### Introductory Comments

The Shipping Federation of Canada, incorporated by an Act of Parliament in 1903, is the representative of the owners, operators and agents of ocean ships trading at ports across Canada, from the Atlantic to the St. Lawrence and Great Lakes to the West Coast. We are writing with respect to the development of Canada's ship-source HNS spill preparedness and response regime, which we view as a very timely exercise given Canada's intent to accede to the *Protocol on Preparedness, Response and Co-operation to Pollution Incidents by Hazardous and Noxious Substances, 2000* (OPRC-HNS Protocol).

The Federation's role in the development of an HNS regime is to ensure that this multi-layered system comprising prevention, preparedness and response functions effectively in Canada and is also aligned with the international regime. Among the specific types of activities that we undertake in this respect are the following:

- Promoting the implementation of international conventions and standards by Canada;
- Advising our membership about Canada's implementation of international standards and monitoring for compliance or enforcement issues that should be addressed by the industry;
- Working with local authorities to manage local navigational challenges (such as navigating in ice or in specific waterways that require particular traffic management measures).

**Our main interest lies in ensuring that Canada's future HNS regime abides by the international conventions that have been developed at the IMO, while providing adequate levels of service to our membership at a reasonable cost without compromising either the degree of preparedness or environmental protection that the regime should ensure.** In this respect, we believe that the oil preparedness and response regime, which has been in place for over two decades, provides an excellent template for the development of an HNS regime.

This being said, we would like to reiterate<sup>1</sup> that our priority as an industry is to ensure the safety of vessel operations, which is where we believe the greatest reductions in environmental risks can be achieved. As the volume of HNS carried on Canadian routes has increased over the years, so too has the operational safety of the vessels carrying this cargo. Navigational technologies, safety management procedures, and the training of shipboard and shore personnel have also undergone a significant evolution in terms of safety and effectiveness. It is important that the government not only acknowledge the foregoing when designing an HNS preparedness and response regime, but also communicate this information to the general public, with a view to addressing concerns related to the movement of hazardous and noxious substances through our waters.

With these general comments in mind, you will find below our responses to the panel's main lines of enquiry, with particular focus on our industry's efforts to ensure vessel safety with respect to the movement of HNS.

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<sup>1</sup> As per our comments on Canada's Marine Oil Spill Preparedness and Response Regime submitted on June 21, 2013.



## Coverage

### **1. How should HNS be defined for the purposes of a Canadian ship-source incident preparedness and response regime?**

According to Article 2 of the OPRC-HNS Protocol, HNS is defined as “... any substance other than oil which, if introduced into the marine environment, is likely to create hazards to human health, harm living resources and marine life, damage amenities or interfere with other legitimate uses of the sea.” Although we support this definition, we would not object to the inclusion of vegetable and animal oils, liquefied natural gas (LNG) and liquefied petroleum gas (LPG) in the definition for the purposes of the Canadian regime.

### **2. What types of substances should be included in a Canadian regime for HNS? What is the rationale for their inclusion? What criteria should be used to inform the future inclusion of additional substances?**

We consider that all substances falling under the definition of HNS (as per our answer to question 1) should be included in the Canadian regime for HNS. As far as the future inclusion of additional substances is concerned, we believe that this process should be informed by changes to the OPRC-HNS Protocol.

### **3. Should a regime address HNS transported in bulk or in packaged form (e.g. containers), or one or the other? Why?**

The question of how to prioritize substances for coverage should be determined through a risk assessment process. We understand that such an assessment was performed in 2011<sup>2</sup> and established that Canada is a net exporter of HNS (9.5 million tonnes exported as opposed to 3.5 million tonnes imported). It also established that the majority of exports are oxidizing substances and organic peroxides followed by toxic substances, while the majority of imports are flammable solids, followed by oxidizing substances, flammable liquids and toxic substances.

The Commissioner of the Environment and Sustainable Development’s 2010 audit identified the absence of a national HNS preparedness and response regime as part of its *Oil Spills from Ships* report, and recommended that Transport Canada take the necessary steps to ensure that it has adequate data on the type and quantity of HNS carried by ships in Canada. Once Transport Canada has obtained such data, we would suggest that it undertake a risk assessment (similar to the *Risk Assessment for Marine Spills in Canadian Waters Phase 1, Oil Spills South of the 60th Parallel* performed by Genivar), with a view to collecting information on the various HNS substances that are carried in Canadian waters (including their properties) and the level of environmental sensitivity of such waters. This will inform the development of the national HNS regime.

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<sup>2</sup> This assessment entitled *Transport of HNS & Vessel Activity* was performed by IHS Fairplay and is referred to in the Background Paper *Canada’s Ship-Source Hazardous and Noxious Substances (HNS) Incident Preparedness and Response Regime* developed by Transport Canada.



Subject to the results of this risk assessment, we would recommend considering bulk shipments for inclusion in the first stage of the regime. According to the IHS Fairplay report mentioned earlier, there were 124 incidents involving ships that normally carry HNS between 2005 and 2009, with bulk carriers accounting for 88 of these incidents<sup>3</sup>.

Packaged HNS shipments would be covered during the second stage of the regime's development, thus providing a period of time in which to assess the implementation of the HNS regime for bulk and adjust the program as necessary. We foresee that the primary difference between bulk and packaged HNS will reside in the potential complexity of the response intervention that would be required in cases involving spills from different packages containing different HNS products with potential interactions. In this respect, we would also caution against under-estimating the administrative burden of collecting a fee/levy from HNS receivers when dealing with multiple shipments of small quantities.

## Prevention

### **4. What measures are already undertaken, either by government or industry, to prevent ship-source HNS incidents?**

As mentioned in the comments we submitted to the Panel in June 2013, the safety of marine transportation in general is based on a multi-layered system involving: 1) the ship and its equipment; 2) the crew, ship management and operations; 3) the flag administration, port state control and enforcement; 4) waterways management, marine communication services and other marine services in support of marine safety (icebreaking, pilotage, tugs, etc.); 5) classification societies and insurers; and 6) the development of best practices.

More specifically, some of the key marine safety measures for vessel operations include:

- Vessel Shipboard Oil Pollution Emergency Plan (SOPEP) and Shipboard Marine Pollution Emergency Plan (SMPEP)
- Procedural checklists for safe operations
- Regulated vessel construction
- Certified handling equipment
- Certification of marine personnel
- Up-to-date charts, publications and information on navigational aids
- ISM (International Safety management) Code documentation
- LRIT(Long Range Identification Tracking)
- AIS (Automated Identification System)
- Navigational and collision avoidance technology
- Marine Pilotage
- Regulated vessel certification and insurance

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<sup>3</sup> Hull/machinery damage accounted for 65 of the 124 incidents, followed by wrecked/stranded vessels at 24, 21 contacts, 9 collisions and 5 related fires or explosions.



This is by no means an exhaustive list, as several of these elements are also linked to measures implemented by the government to prevent HNS incidents. An example is the TERMPOL review process, which, although not regulatory, is a process that may be requested by proponents involved in building and operating new marine terminals for oil, chemicals and liquefied gases to assess the safety and risks of such projects. As well, several regulatory requirements applicable to the transportation of HNS are part of the regulations arising from the *Canada Shipping Act, 2001* and the *Transportation of Dangerous Goods Act*. One such measure requires ships over 150 GRT which are certified to carry noxious liquid substances in bulk to have a Shipboard Marine Pollution Emergency Plan (SMPEP) on board. This plan provides the Master with guidance on how to respond to a spill involving a noxious liquid substance in a manner that will effectively mitigate its environmental impacts.

The examples provided above underline the importance of ensuring a high level of compliance with the measures and regulations that are already in place, and of allocating resources for continuous education with respect to regulatory enforcement.

## **5. What additional measures should be taken to reduce the risk of a ship-source HNS incident?**

Needless to say, the full implementation of Articles 3 and 4 of the OPRC-HNS Protocol covering emergency plans and reporting for both ships and port operations, along with the establishment of a national and regional system for preparedness and response, are essential for achieving further risk reductions. As well, we firmly believe that the first line of incident prevention is inextricably linked to the safety of ship operations. In addition to the foregoing (and speaking from a shipowners' perspective), we believe that the following measures have the potential to even further improve ship safety in Canadian waters:

- Enhanced information about environmental conditions that mariners have at their disposal could be made available to port authorities, ships and oil handling facilities through the use of Wave Rider buoys;
- Given the significant role that the mandatory carriage of AIS has played in avoiding collisions, consideration should be given to requiring mandatory carriage of AIS transponders by smaller ships such as fishing vessels and pleasure craft;
- The Canadian Hydrographic Service should undertake more soundings and update/produce new charts, especially for the Canadian Arctic;
- Linkages between the TERMPOL process and the preparedness and response regime should be reinforced.

In terms of governmental measures that would further reduce the risk of HNS incidents, we believe that Canadian government vessels and aircraft used to monitor/manage spill response should have stable funding resources, and that the Regional Environmental Exercise Team (REET) oil spill response exercises should be re-established in order to provide for effective planning and response to incidents. We also think that Transport Canada's *National Preparedness Plan* and *National Places of Refuge Contingency Plan*, and the Canadian Coast Guard's *National Response Plan*, should be updated and reviewed on a regular basis. As mentioned in our June 2013 comments, we hope that enforcement levels will remain at their current levels within a balanced budget context, as they foster a culture of regulatory compliance.



## Existing Response Capabilities

- 6. What private-sector capability currently exists to respond to HNS incidents in the marine environment, including at HNS handling facilities, on board vessels that carry HNS, and with emergency response contractors?**

From a vessel's perspective, the OPRC-HNS Protocol (Article 3) requirements include a Pollution Incident Emergency Plan and information on the necessary reporting procedures onboard the vessel. In addition, ships above 150 GRT certified to carry oil are obliged to have a Shipboard Oil Pollution Emergency Plan as per the requirements of MARPOL Annex I. Finally, and as previously mentioned, ships above 150 GRT certified to carry noxious liquid substances are required to have a Shipboard Marine Pollution Emergency Plan, as per MARPOL Annex II. These documents are designed to help the crew undertake practical measures to control and minimize a spill from the ship. When fully implemented, these plans would also assist in the response to HNS incidents.

- 7. What public-sector capability, at all levels of government, currently exists to respond to or oversee the response to HNS incidents in the marine environment?**

This question does not relate to our organizations' direct interests or mandate.

- 8. What response techniques exist for responding to various HNS incidents in the marine environment? Are all of them authorized under current legislation? If not, under what circumstances should they be authorized?**

This question does not relate to our organizations' direct interests or mandate.

## Preparedness and Response

- 9. What preparedness and response requirements should be incorporated into a new HNS regime?**

We believe that Canada's preparedness and response regime should include:

- Requirements for both ships and handling facilities to have emergency plans, as required by Article 3 ("Emergency plans and reporting") of the OPRC-HNS Protocol;
- All the elements contained in Article 4 of the Protocol ("National and regional systems for preparedness and response"), which would integrate (amongst other things) the Canadian Coast Guard's 2011 National Contingency Plan;
- Reports on HNS shipments. Although real time reporting is already in place through the Advance Commercial Information (ACI) that carriers send to CBSA, and although Transport Canada has access to this information, it is our understanding that improvements in the



process of sharing this information so as to allow for better real-time access would be desirable;

- Training and certification requirements for private-sector personnel and response organizations;
- Financing and governance provisions in terms of defining who pays how much, how money is collected/managed, and ensuring that appropriate reporting and control mechanisms are in place;
- An awareness plan for facility and vessel operators and other interested stakeholders (including local authorities);
- An inventory of chemical and operational expertise;
- An inventory of available aircraft and vessels in case of intervention;
- An inventory of samplers;
- Forecasting models (air and water movements).

Any effort to increase Canada's HNS spill response capacity would have to be preceded by a comprehensive risk assessment. Indeed, we concur with the assertion contained in Transport Canada's Background Paper (*Canada's Ship-Source Hazardous and Noxious Incident Preparedness and Response Regime*) which states that "Effective response to a major HNS incident is a function of the availability and proximity of specialized response capacity and the ease of access to specific information on the physical and chemical properties of the spilled material, including toxicity and reactivity with other products." Given the foregoing, we believe that an effective response would comprise all of the following elements:

- Spill assessment and notification process;
- Management framework and roles and responsibilities;
- Response strategies;
- Equipment;
- Response personnel;
- Training programme for all stakeholders;
- Exercises to test and practice the arrangements; and
- Escalation and integration for people, equipment and other resources.

## **10. To whom should these requirements apply?**

This question does not relate to our organizations' direct interests or mandate.

## **11. Is the current reporting/record keeping of HNS cargo on vessels in Canada adequate to prepare for and respond to HNS incidents? What could be done to improve the quality and accessibility of the information?**

At this stage, it is essential to develop a detailed picture of the HNS that is currently carried in Canadian waters, based on type, volume and port of entry. As far as international carriers are concerned, this information should be available through the ACI declarations that marine carriers are required to transmit electronically to CBSA. These declarations must be provided 24 hours before loading at a foreign port for containerized cargo, or 24 hours before arrival at a Canadian



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port for bulk and breakbulk cargo.<sup>4</sup> As well, the Canadian Coast Guard is responsible for vessel reporting procedures under the *Vessel Traffic Services Zones Regulations*, which mandate ships to declare any dangerous goods or pollutants onboard. The next step is to better integrate this information in order to allow real-time tracking of the data.

Once a comprehensive picture of HNS movements in Canadian waters has been developed, it will be much easier to make any necessary adjustments to the levels of preparation and response associated with the carriage of such substances in Canadian waters.

**12. Are there international best practices (ship-source or other) that should be considered when creating a national HNS incident preparedness and response regime?**

Substantial information on ship-source HNS has already been developed by various organizations around the world. Some relevant information sources include IMO manuals, the REMPEC Manuals for the Mediterranean, the Helsinki Baltic Sea Convention manuals, the North Sea Bonn Agreement manuals and other documents developed by the European Maritime Safety Agency. The Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP) and the Centre of Documentation, Research and Experimentation on Accidental Water Pollution (Cedre) are also potential sources of valuable information. When considered together, these resources can provide a wealth of information that can be used in a Canadian context.

It would also be useful to draw upon the experiences of countries that have already implemented the OPRC-HNS Protocol (such as Australia, France, Germany, Japan), as well as countries that have not ratified the protocol but nevertheless have HNS preparedness and response strategies in place (such as the United States).

**13. How do health and safety considerations for both responders and adjacent populations impact preparedness and response for HNS incidents?**

This question does not relate to our organizations' direct interests or mandate.

**14. What scientific advice and expertise is required during an HNS incident? Does this expertise currently exist, either in government or private industry? What expertise needs to be developed in Canada?**

This question does not relate to our organizations' direct interests or mandate.

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<sup>4</sup> Although breakbulk cargo must currently obtain an exemption from CBSA in order to be permitted to report ACI 24 hours before arrival (rather than 24 hours before loading), CBSA has proposed a regulatory amendment that would eliminate the requirement for such an exemption, thereby putting breakbulk on the same footing as bulk cargo with respect to reporting timeframes.



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**15. How should response capacity for an HNS regime be developed? What factors should be considered?**

This question does not relate to our organizations' direct interests or mandate. However, we would recommend that the response capacity should be risk-based and timely (through the availability and proximity of specialized response capacity so as to reduce any delays in response), and minimizing environmental impacts (through availability of information on the physical and chemical properties of the HNS involved in the spill). As well, we would recommend that in order to maximize efficiencies at all levels, the deployment of the response capacity could be achieved through cascading and the use of a network approach when appropriate.

## **Roles, Responsibilities and Legal Framework**

**16. Should a separate preparedness and response regime for HNS be created, or should the existing Ship-source Oil Spill Preparedness and Response Regime be expanded to include HNS? Why or why not?**

Transport Canada may wish to consider the option of developing a single, integrated regime that would cover both oil spills and HNS incidents, provided that the financing mechanisms for the two types of incidents remain distinct, as each type of risk should finance its own preparedness, response strategies and costs.

**17. Could Canada's Response Organizations (ROs) fulfill the role of responder to certain ship-source HNS incidents, as they currently do for ship-source oil spills?**

Canada's existing oil spill preparedness and response regime, including Transport Canada's certified Response Organizations, provide a useful model for addressing preparedness and response with respect to HNS incidents. However, it is important to differentiate between the oil spill response regime and the HNS regime, as their financing will be different and the diversity of HNS cargoes must be reflected in the regime's preparedness and response strategies. This being said, we do believe that the current RO's could fulfill the role of responder for HNS incidents, thus ensuring consistency with the stakeholders involved in spill preparedness and response.

**18. What factors would need to be considered in broadening the Response Organizations' mandate to include HNS?**

This question does not relate to our organizations' direct interests or mandate.



**19. If adopted, should the requirements for an HNS regime be integrated into current legislation, such as the *Canada Shipping Act, 2001* and the *Arctic Waters Pollution Prevention Act*, or should new legislation be created?**

The requirements for an HNS regime should be integrated into current legislation, as it is the case for the oil regime.

**20. How should an HNS regime interact with the regulations for the transportation of dangerous goods in Canada?**

This question does not relate to our organizations' direct interests or mandate. We would however recommend that an HNS regime interact with the Transportation of Dangerous Goods Act and Regulations in Canada the same way as the oil regime does.

**21. What role should the Canadian Coast Guard play in an HNS incident?**

This question does not relate to our organizations' direct interests or mandate. Despite this, we would suggest that the Canadian Coast Guard plays the same role in a ship-source HNS incident as it plays in a ship-source oil incident.

**22. What are the current roles and responsibilities of other levels of government (provincial and municipal) in this area? Are any of these governments considering new prevention, preparedness and response requirements that could be of benefit to a national regime?**

This question does not relate to our organizations' direct interests or mandate.

**23. What other parties (i.e., first response agencies, health agencies, marine services, etc) have a role in the preparedness for or response to ship-source HNS incidents? What role could they play?**

This question does not relate to our organizations' direct interests or mandate.

**24. Should responders be provided immunity from liability in the context of their response, as they are in the Ship-source Oil Spill Preparedness and Response Regime under the *Canada Shipping Act, 2001*?**

This question does not relate to our organizations' direct interests or mandate. Nevertheless, we would recommend that responders be provided the same immunity from liability as is included in the Ship-source Oil Spill Preparedness and Response Regime under the *Canada Shipping Act, 2001*.



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**25. How could a future HNS incident preparedness and response regime be financed or funded?**

As is already the case for the oil spill preparedness and response regime, the HNS regime should be financed through contributions from both ships and receivers (i.e. through contracts of coverage with response organizations, mandatory insurance for ships and access to the HNS international fund in case of excess liability). This would require a legislated mechanism mirroring the one already in place for the oil spill preparedness and response regime (mandate of the response organizations for HNS spills to be provided in the *Canada Shipping Act*, insurance requirements and contribution to the HNS international fund to be provided under the *Marine Liability Act*). The mandate of Canada's Ship-Source Oil Pollution Fund could eventually be extended to manage ship-source HNS claims and to provide an additional layer of indemnification (as it does for oil) if the government wishes to do so, provided that this additional layer be funded by interests other than the shipowners already governed by the *International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea, 2010* (2010 HNS Convention).

The taxpayer's contribution should be limited to ensuring that the regime's regulations are enforced and that Canada fulfills its international obligations arising from the relevant International Maritime Organization Conventions. As is the case in the event of an oil spill, the cost to public authorities of monitoring a ship-source HNS spill response is recoverable from the polluter. This current policy of a privately funded and operated regime should not change.

**26. How should an HNS regime be overseen and enforced?**

This question does not relate to our organizations' direct interests or mandate.

## **Research and Development**

**27. How should priorities for HNS-related research and development be established?**

This question does not relate to our organizations' direct interests or mandate.

**28. Who should be responsible for funding and conducting this research?**

As per our comments on Canada's Marine Oil Spill Preparedness and Response Regime, we believe that government should foster support for research and development in the field of HNS spill response, along with factual and pilot project testing of prevention and preparedness measures. The results of these projects should support not only risk assessments, but also improvements to the regulatory regime, and be made available to the public.



## Concluding Comments

As previously mentioned, we believe that at this stage, it is essential to develop a detailed picture of the HNS that are currently transported in Canadian waters in order to develop risk assessments based on HNS quantities and types and the environmental sensitivities of the waters where such substances are being carried. We also believe that Canada's future HNS spill regime must abide by the international agreements developed by the International Maritime Organization (IMO), which is why we urge the Canadian government to ratify the OPRC-HNS Protocol and the 2010 HNS Convention at the earliest opportunity. Finally, we recommend that the government develop a comprehensive communication strategy on HNS in general, and on the effort to implement an HNS preparedness and response regime in particular, and that it do so as early in the process as possible in order to foster a sense of security within the general public and avoid the current opposition that we see for hydrocarbon projects in Canada.

We trust that that the foregoing comments will be helpful in the development of an HNS preparedness and response regime for Canada. We also take this opportunity to reiterate our willingness to collaborate with Transport Canada in its efforts to develop such a regime (including the upcoming inquiry on Arctic Ship-Source Spills). In the meantime, we would be pleased to provide any additional clarification or information you may require, and remain available to provide input in the future.

Respectfully submitted,

Caroline Gravel  
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Shipping Federation of Canada

*The Shipping Federation of Canada (The Federation), incorporated by an Act of Parliament in 1903, acts as the pre-eminent voice of shipowners, operators and agents involved in Canada's world trade. Its overall objective is to work towards a safe, competitive and environmentally sustainable marine transportation system.*