

## **EMSA's activities in the field of HNS marine pollution**

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### **Abstract**

The European Maritime Safety Agency (EMSA) is a specialised Agency of the European Community created in 2002 to support with technical and scientific advice the EU Member States and the European Commission in the field of maritime safety, prevention and response to pollution by ships. Initially, EMSA focused its activities in the field of pollution preparedness and response on oil pollution, with actions in the field of HNS pollution being phased in gradually, parallel to the Agency's growth. Accordingly, in 2007, EMSA developed its *Action Plan for HNS Pollution Preparedness and Response*.

Within the framework of its HNS Action Plan EMSA aims to further develop its role in offering assistance to the Member States and the Commission and to strengthen existing preparedness and response capabilities with regard to HNS marine pollution. EMSA's actions aim to complement national preparedness and response capabilities already in place and not to create new ones.

Some of EMSA's actions undertaken in addressing HNS marine pollution and implementing its HNS Action Plan include the following:

EMSA regularly addresses at European level HNS pollution preparedness and response issues through workshops with the EU/EFTA Member States national experts and representatives from international organisations and industry. Such workshops, held already in 2006 and 2007, help identify gaps while providing useful recommendations for ways forward in this field.

In 2008 EMSA developed an *Inventory of EU Member States Policies and Operational Response Capacities for HNS Marine Pollution*, involving all coastal EU and EFTA Member States. Individual country profiles have been compiled and verified by the respective national authorities. This inventory provides a summary of the existing capacities in the respective countries and demonstrates the levels of preparedness and the availability of specialised response resources, which varies significantly across the EU.

Interesting conclusions to be drawn from the inventory are that while it has proven to be rather difficult to achieve comprehensive information on the level of preparedness in the EU, it is evident that there is a great need for further dissemination of best practice in this field. Furthermore, the type of equipment commonly used in marine incidents involving HNS is not as straightforward as in oil pollution response because there are a vast number of chemicals that could potentially be encountered in an HNS incident.

Due to the particular nature of HNS incidents the need is apparent for additional scientific and technical information in case of marine HNS spills. EMSA's actions are being developed to assist Member States in their efforts to obtain up-to-date information concerning HNS transported within their waters. Such data should provide authorities with valuable information on which to base risk assessments and set priorities for contingency planning covering HNS marine pollution. Furthermore, the Agency, in close cooperation with the chemical industry and HNS response experts, has established the MAR-ICE Network to provide information on chemicals involved in marine pollution incidents 24/7.

EMSA aims to continue implementing its HNS Action Plan in close cooperation with the EU Member States and other international key actors in the field.

## **Introduction**

Following the accident of the oil tanker *Erika* in 1999, the European Union established the European Maritime Safety Agency (EMSA) through Regulation 1406/2002. The role of EMSA is to ensure a high quality, uniform and effective level of maritime safety and prevention of pollution by ships. EMSA is a technical body which supports the European Community to act effectively with respect to maritime safety issues. It assists the European Commission in updating and developing Community legislation, monitors and ensures convergent and effective implementation of existing legislation and undertakes tasks assigned to it in close cooperation with the European Commission and the European Union Member States.

In the aftermath of the accident of the *Prestige* oil tanker in 2002, the adoption of Regulation 724/2004 tasked the Agency to provide a framework for developing pollution response actions at the European level.

The initial focus of the Agency was to develop an oil spill response program to assist the EU Member States in cases of major oil spills. However, it was recognized early on that a risk assessment and response actions are also necessary for accidental releases of hazardous and noxious substances (HNS) in the marine environment. Actions in the field of HNS pollution preparedness and response are being phased in gradually, parallel to the Agency's growth, and are further defined in EMSA's annual Work Programmes since 2006.

Subsequently, the Agency developed the *Action Plan for HNS Pollution Preparedness and Response* (HNS Action Plan), which was adopted by EMSA's Administrative Board on 12 June 2007, incidentally two days before the *Protocol on Preparedness, Response and Co-operation to pollution Incidents by Hazardous and Noxious Substances, 2000* (OPRC-HNS Protocol) entered into force.

## **Scope of the HNS Action Plan**

Chemicals are often classified as Hazardous and Noxious Substances or HNS. They can comprise inorganic or organic chemical compounds, minerals etc. for use within or derived from the manufacturing, petrochemical, textile, pharmaceutical, food and agricultural industries. An ever increasing amount of chemicals is transported by sea either in specialised vessels carrying these substances in bulk, or in packaged form, often on ships carrying a variety of goods.

For the purposes of the Action Plan, HNS are defined 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*", in accordance with the OPRC-HNS Protocol (2000)<sup>1</sup>.

The Agency's activities are focused on ship-sourced pollution involving the release or the threat of release into the marine environment of HNS transported in bulk, based on reported incident statistics.

The EMSA HNS Action Plan provides:

- A concise overview of existing available information in the field of preparedness and response to HNS marine pollution, including information on: seaborne transportation of HNS, past HNS incidents, challenges and impacts of HNS marine pollution, existing HNS pollution preparedness and response mechanisms, and options and limitations of response methods to such incidents; and

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<sup>1</sup> OPRC-HNS Protocol: Protocol on Preparedness, Response and Co-operation to Pollution Incidents by Hazardous and Noxious Substances, 2000

- A framework document defining the Agency's role and activities in this field in order to make an "added value" contribution at European level and strengthen existing preparedness and response capabilities.

## **EMSA HNS Action Plan Activities**

Marine pollution caused by HNS differs from oil pollution in having a large range of potential fates and behaviours once released into the marine environment. Responder and public safety risks and impacts associated with HNS can be potentially more severe than with oil. The selection of the appropriate response option(s) to an HNS incident requires detailed knowledge of the involved substance's physical and chemical properties.

Compared to oil, different specialised knowledge and operational expertise are required for an effective response to HNS marine pollution. EMSA actions are developed to ensure Member States receive, when dealing with an HNS incident, specialised information about the substances' potential fate and behaviour, associated hazards and impacts, and possible response options.

Response actions undertaken either onboard a vessel or within the surrounding risk area are operational decisions and tasks under the sole responsibility of the Member State(s). Consequently, the proposed activities carried out by or through EMSA are strictly non-operational and are only designed to provide additional support, matching the 'top-up' philosophy of EMSA.

It is important to note that published information concerning HNS trade and seaborne transportation in EU waters is limited, making it difficult to obtain an overview of the amount and routes of HNS transport. Some statistics have been developed by EMSA based on available reported information, indicating that incidents involving the release of HNS or the threat thereof have occurred in all EU regional seas. Reviewed case studies indicate that two general response options can be adopted by the affected country during an HNS incident: *onboard* and *risk area* response actions.

- The operational response with *onboard* actions is designed to prevent, stop or contain an HNS release incident. It will require the affected Member State(s) to decide which specialised and experienced personnel and equipment it will deploy, usually from the competent national authorities in charge of marine pollution (operational responders).
- The response within the *risk area*<sup>2</sup> requires detailed procedures to be in place to safeguard responders and the public, when an HNS incident poses a risk but cannot be prevented, stopped or contained; such actions touch upon civil safety issues and it is up to the affected Member State to decide how to proceed with implementing the appropriate actions.

The risk assessment, which needs to be carried out by each Member State, should consider for the HNS material involved its fate, behaviour and impact, the identification of appropriate response techniques and the available response resources (personnel and equipment). This requires specialist knowledge of HNS characteristics and potential response options.

## **EMSA HNS Inventory**

In accordance with Regulation (EC) No 1891/2006 amending Regulation (EC) No 1406/2002, EMSA was given the task to "draw up on a regular basis a list of the private and state pollution response mechanisms and response capabilities in the various regions of the European Union". To this effect, EMSA has made an inventory of existing capacities for

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<sup>2</sup> Risk area covers the geographical scale and/or area around the vessel that could be affected following an HNS incident (for example the area around the vessel where explosion damage could extend to). Section 4 of the EMSA HNS Action Plan.

responding to marine pollution incidents involving hazardous and noxious substances in all coastal EU and EEA Member States.

A country profile has been compiled for each coastal EU and EEA Member State, based on information from EMSA questionnaires, workshop proceedings, Regional Agreements and internet sources. These country profiles have been verified by the respective national authorities.

The EMSA HNS Inventory provides a summary of the current situation and the existing capacities in each country and demonstrates the different levels of preparedness and the availability of specialised response resources, which varies significantly between countries.

The inventory also includes a description of the competent authorities, the policies, and the preparatory arrangements of each Member State. This information is also displayed in maps illustrating the level of preparedness within the different coastal EU and EEA Member States in a graphically clear and informative way.

## Response capacity to marine HNS incidents in Europe



While it has proven to be rather difficult to source comprehensive information on the level of HNS preparedness in the coastal EU and EEA Member States, it is evident that there is a great need for further dissemination of knowledge on best practice in the field of HNS. Many EU Member States have ratified the OPRC-HNS Protocol 2000, but only a few appear to have sufficient equipment and expertise available at this time.

The type of equipment commonly used in marine incidents involving HNS is not as straightforward as in oil pollution response. There are a vast number of chemicals that could potentially be encountered in a marine HNS incident. Since each chemical may behave in a different way once released to the marine environment, a variety of equipment and tools may be needed. This equipment is not necessarily stored by any one agency or authority, but may in case of a real incident be called in from various sources. It can

therefore be extremely difficult to know exactly what is available beforehand, which is particularly true for private companies and the salvage industry.

Coastal EU and EEA Member States with less developed preparedness for HNS incidents generally rely on the assistance of neighbouring states through the Regional Agreements (HELCOM, Bonn Agreement, REMPEC, and the Black Sea Commission). These Regional Agreements have conducted considerable amounts of work, including contingency plans, response manuals, risk assessments, and inventories of response capacities and are a valuable asset.

Another issue which can and should be further promoted is training and dissemination of knowledge on preparedness and response to marine HNS incidents. Many EU Member States have pointed out the lack of relevant training courses as an area for further work. The Agency has begun to address this issue by hosting the pilot course of IMO's new *HNS First Responder Course* for the EU Member States.

The *Protocol on Preparedness, Response and Cooperation to pollution Incidents by Hazardous and Noxious Substances*, 2000 (OPRC-HNS Protocol) aims to provide a global framework for international cooperation in combating major incidents or threats of marine pollution. Entry into force was on 14 June 2007. Parties to the HNS Protocol are required to establish measures for dealing with pollution incidents, either nationally or in cooperation with other countries. In addition, ships are required to carry a shipboard pollution emergency plan to deal specifically with incidents involving HNS.

The EMSA *Inventory of EU Member States Policies and Operational Response Capacities for HNS Marine Pollution* (2008) shows that of the twelve EU Member States that have ratified the OPRC HNS Protocol, six countries report "very limited" response capacities to deal with HNS incidents, while only three report "specialised" capabilities.

## **The MAR-ICE Network**

When dealing with an HNS pollution incident, one of the priority requirements is the identification of the hazard and an assessment of the risk posed by a stricken vessel and its cargo to the public and responder safety, the environment and socioeconomic assets that a state or coastal community depend upon. The primary factors which determine the safety, environmental and socioeconomic impact of the released HNS material(s) relate to the chemical and physical properties of the material and its physical fate in the environment.

In accordance with its HNS Action Plan", EMSA has established a network of chemical experts who can support EU Member States in responding to marine pollution emergencies involving chemicals. This is the "MAR-ICE Network" (Marine Intervention in Chemical Emergencies Network) developed by EMSA in close cooperation with the European Chemical Industry Council (Cefic) and the Centre of Documentation, Research and Experimentation on Accidental Water Pollution (*Cedre*). This network of chemical experts is fully operational since January 2009 and will strengthen the information transfer of chemical substances involved in marine pollution emergencies in EU waters.

### Services provided by MAR-ICE

The MAR-ICE Network provides, upon request, remote (via telephone, fax or e-mail) product-specific information and advice on chemicals involved in marine pollution incidents, by contacting, through a single interface (*Cedre*), experts from chemical companies knowledgeable about the substance(s) involved in the pollution.

The MAR-ICE Network is based on the voluntary ICE (Intervention in Chemical transport Emergencies) network which provides a similar type of assistance for *land-based* chemical spills.

### Who can contact the network?

All 27 EU Member States and the coastal EFTA States can request assistance from the MAR-ICE Network for marine pollution emergencies involving chemicals in EU waters, in accordance with the service's operational procedures.

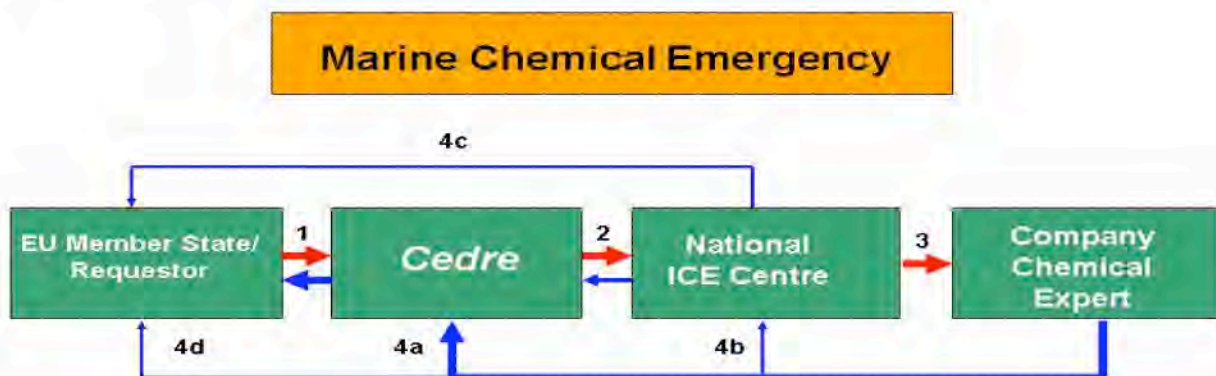
### How to contact the network

All incoming requests to the MAR-ICE Network are channelled through the MAR-ICE Focal Point at *Cedre*, which acts as a single 24/7 interface and first contact point for the network<sup>3</sup>. The relevant contact numbers have been disseminated to the national maritime administrations. All communications when contacting the network (requests and replies) are made in English, unless mutually otherwise agreed.

When contacting the MAR-ICE Focal Point, the requesting parties are to follow set procedures described in detail in the MAR-ICE Implementation Plan, which has been distributed to the EU and EFTA States. It is recommended, but not compulsory, that use is made of the MAR-ICE Contact Form also provided in the Implementation Plan, when contacting the network.

In accordance with the Implementation Plan, product-specific information and advice will be provided to the requesting party within one hour and incident-specific information, if available, will be provided as soon as possible thereafter.

### MAR-ICE Network: Information Flowchart



- 1. EU Member State contacts the MAR-ICE Focal Point at *Cedre***
- 2. *Cedre* searches in database and contacts ICE Centre of country of expert company**
- 3. ICE Centre contacts expert company**
- 4. The Company provides info to the Requesting EU MS: a) via *Cedre*; b) via *Cedre* (through the ICE Centre); c) via the ICE Centre; or d) directly to the requesting EU MS**

#### Future developments of the MAR-ICE Network

EMSA will monitor and evaluate the implementation of the MAR-ICE Network, the service's operational use and the assistance offered to requesting parties. After completion of its first year of operation, EMSA, in cooperation with Cefic and *Cedre*, will host annual meetings to discuss with the EU Member States, coastal EFTA States and the national ICE centres involved, issues related to the MAR-ICE Network and the service provided, as well as its future development.

The Agency will also generate statistical data on HNS marine pollution in the EU, obtained through the MAR-ICE Network.

<sup>3</sup> This does not prevent the maritime administrations from making use of existing arrangements with the chemical industry at the national level.

## **Workshops and trainings**

Another issue highlighted in the HNS inventory is that training and dissemination of knowledge on preparedness and response to marine HNS incidents should be further promoted. Many EU Member States have pointed out the lack of relevant training courses as an area for further work.

The Agency begun to address this issue by hosting the pilot course of IMO's new *HNS First Responder Course* for the EU Member States in early 2008 and providing the participants' comments and suggestions at the IMO OPRC/HNS Technical Group Meeting, in view of the course's finalisation.

In addition, EMSA has organised and hosted two workshops for EU Member State experts addressing HNS marine pollution preparedness and response, one in Brussels in 2006 and the second one in Lisbon in 2007. In this workshops industry experts as well as experts from other countries (USA) were invited to present and collectively discuss existing structures and challenges in responding to HNS marine pollution.

## **Summary**

EMSA is addressing HNS marine pollution in close cooperation with Member States and other key national and international organisations in this field, with the aim of providing 'added value' in the existing EU preparedness and response mechanisms. The Agency will continue to work on this important topic in accordance with its Action Plan and Work Programmes, and develop its activities taking into account the need and gaps in this field.