

European Maritime Safety Agency

Workshop Report

CTG MPPR Workshop on the status of the OPRC-HNS Protocol implementation in the EU

1 June 2010, Lisbon

Report of "CTG MPPR Workshop on the status of the OPRC-HNS Protocol implementation in the EU"

Background

On 1 June 2010, EMSA hosted a workshop regarding the status of the OPRC-HNS Protocol implementation in the European Union, organised within the framework of the Consultative Technical Group for Marine Pollution Preparedness and Response (CTG MPPR). The CTG MPPR aims to provide a platform for Member States to discuss and contribute to the improvement in preparedness for and response to accidental or deliberate pollution from ships.

The Protocol on Preparedness, Response and Co-operation to Pollution Incidents by Hazardous and Noxious Substances (OPRC-HNS Protocol 2000) provides the framework for the development of national and regional capacity to prepare for and respond to HNS pollution incidents, and aims to facilitate international cooperation and the provision of mutual assistance in preparing for and responding to major pollution incidents. The OPRC-HNS Protocol entered into force in June 2007. To date, 12 EU Member States have ratified the Protocol, while 6 other are considering and/or preparing for its ratification or accession thereto.

Workshop Objectives

The workshop was attended by experts from 15 coastal States (EU Member States and EFTA coastal States), as well as from representatives from the International Maritime Organisation (IMO) and the European Regional Agreements (the participants' list is attached in Annex 3).

The workshop addressed the following main objectives:

- To present and discuss from an operational point of view the specific requirements of the OPRC-HNS Protocol for the various national authorities.
- To present existing/best practices of the OPRC-HNS Protocol's implementation and arrangements put in place in preparation for its ratification or accession.
- To discuss the challenges encountered by Member States regarding the OPRC-HNS Protocol's implementation, in order to identify specific gaps and define areas where further assistance could be provided at regional, European and international level.

Workshop Programme

The workshop was chaired by Mr Bernd Bluhm, EMSA Head of Unit for Pollution Preparedness and Response, and followed the Agenda as attached in Annex 1. The chairman welcomed the participants and outlined the workshop scope and objectives. The main topics presented under each session are summarised below:

Session 1: HNS related Conventions and recent developments

Ms Patricia Charlebois, Head of the Pollution Response Section of the Marine Environment Division in the IMO, set the scene of the international legal framework covering oil and HNS marine pollution, by presenting the main legal instruments available in the fields of prevention, preparedness, response and cooperation, and, liability and compensation. While MARPOL is considered one of the most important conventions in the field of pollution prevention, the OPRC Convention and the OPRC-HNS Protocol are the main framework documents providing an international platform for co-operation, preparedness and response to oil and HNS marine pollution respectively.

Ms Malgorzata Nesterowicz from EMSA addressed the recent developments regarding the revision of the 1996 HNS Convention (International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea). The main topics addressed by the newly adopted HNS Protocol to the HNS Convention, as well as an overview of the overall revised liability and compensation regime covering HNS marine pollution incidents were presented in more detail.

Session 2: OPRC-HNS Protocol Objectives and Requirements

IMO's Ms Charlebois continued with presenting the specific requirements of the OPRC-HNS Protocol in regard to its practical implementation by the Contracting Parties. The provisions of the Protocol's relevant Articles, namely Articles 3 to 8, were reviewed and further presented and described in detail. The OPRC-HNS Protocol is structured very similarly to its parent document, the OPRC Convention, and both documents cover the same type of requirements, addressing oil and HNS marine pollution respectively. However, the expertise, experience and knowledge available, as well as the challenges and risks, differ widely between oil and HNS marine pollution. According to Ms Charlebois, Article 4, which requires the establishment of national and regional systems for preparedness and response to HNS pollution, seems to be the most difficult for Contracting Parties to address, in terms of ratifying and implementing the OPRC-HNS Protocol.

Session 3: Existing practices addressing the Protocol's implementation

An overview of the current status of the OPRC-HNS Protocol's implementation in the EU was presented by Ms Lito Xirotyri from EMSA, on the basis of the information provided for the 2010 update of the EMSA 'Inventory of EU Member States Policies & Operational Response Capacities for HNS Marine Pollution'. The presentation included a map of reported HNS incidents and spills in EU waters from 1997 to 2010, as well as information on the available preparedness and response capacities in the EU Member States. The means available at EU/EMSA level to support the OPRC-HNS Protocol's implementation were also presented, including the MAR-ICE service, the EMPOLLEX programme and the work of the CTG MPRR.

Ms Veneta Georgieva, from the Bulgarian Maritime Administration, presented the current status regarding Bulgaria's overall preparedness and response capacity to HNS marine pollution, and highlighted the national challenges in addressing the OPRC-HNS Protocol ratification and implementation. Identified gaps in this field include the limited distribution of experience gained from lessons learned, the need for specialised training of HNS responders, and the lack of specialised decision support tools.

Mr Graeme Proctor, from the MCA, addressed the UK's approach to the OPRC-HNS Protocol's implementation, by presenting the UK policy, preparedness and response arrangements regarding HNS marine pollution. The UK is considering legislation to achieve the objectives of the OPRC-HNS Protocol and aims to accede to the Protocol in the near future. Mr Proctor described the 3 levels of HNS marine response available in the UK and presented the organisation, tasks and training of the national HNS response team.

Mr Alexander von Buxhoeveden, from the Swedish Coast Guard, presented the status of the OPRC-HNS Protocol's implementation in Sweden. Following the "Viggo Hinrichsen" accident in 1973, Sweden started improving its preparedness and response capacity and its knowledge in responding to chemical spills. These efforts included conducting risk assessments of transportation of dangerous goods in Swedish waters, strengthening national and international co-operation, and building national response capacities with chemical response vessels and specialised response teams. Sweden has addressed most of the requirements of the OPRC-HNS Protocol, independently of and prior to ratifying it in 2007.

Session 4: Challenges and needs linked to the Protocol's implementation

During this session a 'tour-de-table' discussion was held on the basis of questions included in the meeting document prepared by EMSA and distributed to the participants in advance of the workshop (attached in Annex 2).

The aim of this final discussion was to present and discuss the specific challenges encountered by the EU Member States in addressing the OPRC-HNS Protocol's ratification and implementation, and to identify the gaps and areas where further assistance is needed and could be developed at regional, EU or IMO level.

Each participating Member State (MS) presented their feedback to these questions, addressing their views regarding the challenges encountered in ratifying the Protocol, their experience with HNS spills, the value of international co-operation, available supporting tools for HNS pollution, as well as proposals on the way forward in filling in the gaps in this field.

In concluding this session, Mrs Charlebois (IMO) presented the tools and resources available at IMO level and internationally to assist countries with the implementation of the OPRC-HNS Protocol. These include the work of the IMO MEPC/OPRC-HNS Technical Group, information resources (such as manuals, guidelines and other printed resources), electronic tools and online resources, Emergency Centres of Expertise, and websites with HNS-related information.

Workshop Conclusions and Way Forward

Following the discussions, some of the conclusions included:

- Knowledge on the behaviour of HNS in the marine environment is very limited and remains a big gap in this field;
- There is a clear need for regular training and exercises covering HNS marine pollution response;
- The exchange of information on this issue between MS is very important;
- EMSA's MAR-ICE service should continue and be further developed;
- There is value in holding a follow-up workshop on this topic in 1-2 years.

It was agreed that a summary of the workshop's conclusions and proposals regarding the way forward to address some of the challenges and gaps identified at this workshop, will be presented at the next (5th) meeting of the CTG MPPR on 26 October 2010.

Attachments

- (1) Workshop Agenda
- (2) Meeting Document
- (3) List of participants

This workshop report, including its annexes, is published on the EMSA website (<u>www.emsa.europa.eu</u>), as well as on the restricted CTG MPPR/Inter-Secretariat area of the EMSA website.



European Maritime Safety Agency

'CTG MPPR workshop on the status of the OPRC-HNS Protocol implementation in the EU'

Lisbon, 1 June 2010

Agenda

Chair: Mr Bernd Bluhm, Head of Unit Pollution Preparedness and Response, EMSA

- 08:30 Registration & coffee
- **08:45** Welcome address and meeting objectives (*Bernd Bluhm*, *EMSA*)

Session 1: HNS related conventions and recent developments

- **09:00 Overview of HNS-related international legal framework** (*Patricia Charlebois, IMO*)
- 09:30 Current status of the 1996 HNS Convention and recent developments (Malgorzata Nesterowicz, EMSA)
- 10:00 Discussion

Session 2: OPRC-HNS Protocol objectives and requirements

- 10:20 Requirements regarding emergency plans and reporting, national preparedness and response systems, regional and international cooperation (Articles 3-8) (*Patricia Charlebois, IMO*)
- 10:50 Discussion
- 11:10 Coffee

Session 3: Existing practices of addressing the OPRC-HNS Protocol implementation

- 11:30 Overview of the OPRC-HNS Protocol's implementation in the EU (Lito Xirotyri, EMSA)
- 12:00 The Bulgarian example of preparing for the OPRC-HNS Protocol ratification (Veneta Georgieva, Bulgarian Maritime Administration)
- 12:30 Lunch break
- 14:00 The United Kingdom example of preparing for the OPRC-HNS Protocol ratification (Graeme Proctor, MCA)
- 14:30 The Swedish example of implementing the OPRC-HNS Protocol (Alexander von Buxhoeveden, Swedish Coast Guard)
- 15:00 Discussion

Session 4: Challenges and needs linked to the OPRC-HNS Protocol implementation

On the basis of the meeting document distributed by EMSA as annex to the invitation letter, a 'tour-de-table' discussion will be held during this session.

The aim of the discussion is to present and discuss the specific challenges encountered by the EU Member States in addressing the OPRC-HNS Protocol's ratification and implementation, and to identify the gaps and areas where further assistance is needed and could be developed at regional, EU or IMO level.

15:20 *Tour de table discussion (All participants)*

- Introduction
- Member States' challenges in ratifying & implementing the OPRC-HNS Protocol
- Identification of gaps and needs for assistance to ratify and implement the OPRC-HNS Protocol

16:30 Coffee

- **16:50** Available tools supporting the OPRC-HNS Protocol implementation (*Patricia Charlebois, IMO*)
- 17:20 Conclusions and way forward (Bernd Bluhm, EMSA)
- 17:45 Meeting close



Meeting document - CTG MPPR workshop on the status of the OPRC-HNS Protocol implementation in the European Union

Lisbon, 1 June 2010

I - Overview of the international legal framework regarding marine pollution preparedness and response regimes

The international legal instruments related to preparedness and response to marine pollution incidents involving oil and hazardous and noxious substances (HNS) other than oil have been developed within the framework of the International Maritime Organisation (IMO). In particular, the following legal instruments are of importance for the purposes of this workshop:

MARPOL

The International Convention for the Prevention of Pollution from Ships (MARPOL) covers the prevention of operational or accidental pollution of the marine environment by ships. It is a combination of two treaties adopted in 1973 and 1978 respectively and updated by amendments through the years. The combined instrument entered into force in October 1983 (for Annexes I and II).

The MARPOL Convention is a framework convention which includes 6 technical Annexes, regulating:

- The prevention of pollution by oil (Annex I)
- The control of pollution by noxious liquid substances in bulk (Annex II)
- The prevention of pollution by harmful substances carried by sea in packaged form (Annex III)
- The prevention of pollution by sewage from ships (Annex IV)
- The prevention of pollution by garbage from ships (Annex V)
- The prevention of air pollution from ships (Annex VI)

Parties to the Convention must accept Annexes I and II on ratification, but the other Annexes are voluntary. Annexes II and III cover HNS/chemicals transported in bulk and packaged form. More specifically:

 <u>MARPOL Annex II</u> comprises discharge regulations and measures to reduce discharges of noxious liquid substances (chemicals) transported in bulk. It uses a four-category pollution system for noxious liquid substances (X, Y, Z and OS). The <u>IBC Code</u> (International Code for the Construction and Equipment of Ships carrying dangerous chemicals in bulk), referring to Annex II of MARPOL, lists chemicals and their hazards and gives both the ship type required to carry that product, as well as the environmental hazard rating.

 <u>MARPOL Annex III</u> comprises regulations aiming at the prevention of pollution by harmful substances carried by sea in packaged form, which include packages, freight containers and portable tanks. The Annex also comprises general requirements to issue detailed regulations regarding packing, labelling, documentation, stowage, limits on size, etc to satisfy demands on safety and to reduce the risks of pollution by noxious substances. The carriage of harmful substances in ships is prohibited, except if in accordance with the provisions of Annex III, which are also amplified by the IMDG Code.

SOLAS 1974 and the IMDG Code

The International Convention for the Safety of Life at Sea, 1974 (SOLAS), as amended, deals with various aspects of maritime safety and contains in chapter VII the mandatory provisions governing the carriage of dangerous goods in packaged form or in solid form in bulk. The carriage of dangerous goods is prohibited except in accordance with the relevant provisions of chapter VII, which are amplified by the International Maritime Dangerous Goods (IMDG) Code.

The IMDG Code, as amended, aims to supplement the principles laid down in the SOLAS and MARPOL Conventions and attained mandatory status from 1 January 2004 under the umbrella of SOLAS; however, some parts of the Code continue to be recommendatory. Observance of the Code harmonises the practices and procedures followed in the carriage of dangerous goods by sea and ensures compliance with the mandatory provisions of the SOLAS Convention and of Annex III of MARPOL.

The IMDG Code, which sets out in detail the requirements applicable to each individual substance, material or article, has undergone many changes, both in layout and content, in order to keep pace with the expansion and progress of industry.

OPRC Convention, 1990

The International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC, 1990) was adopted in November 1990 and is designed to help governments prepare for and respond to major oil spill incidents. It provides a global <u>framework</u> for international co-operation in this field. The Convention entered into force in May 1995. To date, it has been ratified by 101 countries, representing 68,20% of the world tonnage.

Parties to the OPRC Convention are required to develop and establish measures for dealing with pollution incidents, either individually or in co-operation with other countries.

The main requirements of the OPRC Convention are as follows:

- <u>Oil pollution emergency plans</u> are required for ships flying the flag of a Contracting Party, operators of offshore units under the jurisdiction of a Contracting Party, authorities or operators in charge of sea ports and oil handling facilities under the jurisdiction of a Contracting Party;
- Ships and aircraft are required to <u>report oil pollution incidents</u> to the nearest coastal authorities and the Convention details the actions that are then to be taken;

- The <u>establishment of national preparedness and response systems</u> is required, including the development of detailed national contingency plans for responding promptly and effectively to oil pollution incidents, the designation of national authorities, the establishment of stockpiles of oil spill response equipment and the holding of oil spill combating exercises, individually or in co-operation with the relevant oil and shipping industries;
- Parties to the Convention <u>may request assistance from any other Party</u>, either bilaterally or through the IMO or relevant regional organisations, and must inform neighbouring States of spills which could affect them.

OPRC-HNS Protocol, 2000

In recognition of the increasing threat of pollution incidents involving chemicals, the scope of the OPRC Convention was expanded to cover HNS other than oil, by adopting the Protocol on Preparedness, Response and Co-operation to Pollution Incidents by Hazardous and Noxious Substances (OPRC-HNS Protocol) in March 2000. This Protocol entered into force on 14 June 2007. Only parties to the OPRC Convention 1990 can accede to the OPRC-HNS Protocol 2000, which has been ratified to date by 25 countries.

Like the OPRC Convention for oil, the OPRC-HNS Protocol aims at providing a global <u>framework</u> for international co-operation for preparedness and response to major marine pollution incidents or to threats thereof from ships carrying HNS. It covers incidents resulting to pollution or the threat thereof, including the discharge, release or emission of HNS which poses or may pose a threat to the marine environment or coastline, and which would require emergency action or an immediate response. The Protocol aims to ensure that ships carrying hazardous and noxious substances are covered by preparedness and response regimes similar to those already in existence for oil incidents.

The OPRC-HNS Protocol also aims to improve the scientific and technological knowledge in this field and to develop specialised training programmes addressing HNS marine pollution preparedness and response.

The OPRC-HNS Protocol is structured and worded very similarly to the OPRC Convention which is the parent document. Accordingly, Parties to the Protocol are required to develop and establish measures for dealing with pollution incidents by HNS, either nationally or in co-operation with other countries, as follows:

- Ships flying the flag of a Contracting Party are required to carry a shipboard <u>pollution</u> <u>incident emergency plan</u> to deal specifically with incidents involving HNS. Seaports, and HNS handling facilities within a Contracting Party's jurisdiction should also have similar arrangements in place;
- Ships and aircraft are required to <u>report HNS pollution incidents</u> to the nearest coastal authorities;
- <u>National systems for preparedness and response should be established</u>, including the development of national contingency plans for responding promptly and effectively to HNS pollution incidents, the establishment of a designated national authority and operational contact points; the establishment of stockpiles of HNS spill response

equipment, nationally or through bilateral or multilateral co-operation and in cooperation with the shipping industries and relevant entities dealing with HNS; the holding of exercises and training programmes;

• Parties to the Protocol <u>may request assistance from any other Party</u>, either bilaterally or through the IMO or relevant regional organisations, and must inform neighbouring States of spills which could affect them.

Both the OPRC Convention and the OPRC-HNS Protocol, provide:

- A framework for the development of national and regional capacity to prepare for and respond to oil/HNS pollution incidents, and
- A platform to facilitate international co-operation and mutual assistance in preparing for and responding to major oil/HNS pollution incidents.

Definition of HNS

The OPRC-HNS Protocol defines the term hazardous and noxious substance (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".

This is a broad definition which includes:

- Noxious liquid substances described in Annex II of MARPOL 73/78 and the IBC Code
- Dangerous goods described in the IMO Dangerous Goods Code (IMDG Code)
- Solid cargoes covered by the Code of Safe Practice for Solid Bulk Cargoes (BC Code)

It should be noted that the definition of HNS under the OPRC-HNS Protocol differs widely from the definition of HNS under the HNS Convention, due to the different aim and scope of the two legal instruments. The OPRC-HNS Protocol provides the framework for preparedness, response and co-operation to marine pollution by HNS, whereas the HNS Convention regulates the compensation for damage caused by the carriage of HNS by sea.

HNS Convention, 1996

The International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea, 1996 (HNS Convention) aims to provide adequate, prompt and effective compensation for loss or damage to persons, property and the environment arising from the carriage of HNS by sea. The HNS Convention is based on the same legal system available for compensation of oil pollution, as foreseen by the 1969 International Convention on Civil Liability for Oil Pollution Damage, as amended in 1992 (CLC) and the 1992 International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (IOPC Fund Convention).

The HNS Convention seeks to establish a two-tier system for compensation to be paid in the event of accidents at sea involving hazardous and noxious substances, such as chemicals. Under the HNS Convention, the shipowner is liable for the loss or damage up to a certain amount covered by compulsory insurance (1st tier). A compensation fund (HNS Fund) will provide additional compensation where the insurance does not cover an incident, or is

insufficient to satisfy the claim (2nd tier). Contributions to this Fund will be calculated according to the amount of HNS received in each State in the preceding calendar year.

The HNS Convention was adopted in 1996 but has not yet entered into force. To date, 14 States have ratified the Convention. A <u>draft Protocol to the HNS Convention</u> has been designed to address practical problems that have prevented many States from ratifying the original HNS Convention. Among the main obstacles in ratifying the HNS Convention are the requirement for States to report the quantities of HNS they have received and the concept of 'receiver'. A Diplomatic Conference is being held in London from 26 to 30 April 2010 to adopt the draft Protocol amending the HNS Convention¹.

II – Ratification and implementation status of the OPRC-HNS Protocol in the EU

To date, **12** EU/EFTA coastal States have ratified the OPRC-HNS Protocol, as shown below:



OPRC and OPRC-HNS Ratification across Europe - April 2010

¹ The outcome of this Diplomatic Conference will be presented at the workshop.

More specifically, the following EU Member States have ratified the OPRC-HNS Protocol:

- 1. Denmark (Ratification on 30 December 2008)
- 2. Estonia (Ratification on 16 August 2008)
- 3. France (Ratification on 24 July 2007)
- 4. Germany (Ratification on 2 September 2009)
- 5. Greece (Ratification on 14 June 2007)
- 6. Malta (Ratification on 14 June 2007)
- 7. Netherlands (Ratification on 14 June 2007)
- 8. Poland (Ratification on 14 June 2007)
- 9. Portugal (Ratification on 14 June 2007)
- 10. Slovenia (Ratification on 14 June 2007)
- 11. Spain (Ratification on 14 June 2007)
- 12. Sweden (Ratification on 14 June 2007)

Some countries, such as the UK, are preparing for the implementation of the OPRC-HNS Protocol by putting in place the necessary arrangements as required by the Protocol, prior to its ratification. Others (the majority), first ratify the Protocol and then commence addressing its implementation. There are different approaches regarding the OPRC-HNS Protocol's implementation and various levels of overall preparedness to HNS marine pollution across the EU.

Below are some data related to the Protocol's implementation in the EU²:

OPRC-HNS Protocol Requirements	Status in the 24 EU-EFTA Coastal States	
Development of national Contingency Plans for responding to HNS pollution incidents	Approximately 10 countries have national contingency plans covering specifically HNS or partially addressing HNS spills	
Establishment of a minimum level of pre- positioned equipment for responding to pollution incidents, corresponding to the risk involved	Several countries have conducted HNS risk assessments, and few have specialised response capabilities for marine chemical pollution in place	
Development of a programme of exercises and training for relevant organisations and response personnel	Very few countries have training and exercise programmes in place addressing specifically chemical marine pollution response aspects	
Establishment of international co-operation in dealing with HNS incidents	Several countries have had experience with marine incidents involving HNS. In most cases, where international assistance was required, it was successfully provided by neighbouring countries or within the Regional Agreements framework	

² Based on data from the EMSA Inventory of EU Member States Policies and Operational Response Capacities for HNS Marine Pollution (June 2008).

III –Questions for the final session of the workshop (tour-de-table discussion)

The main objective of this workshop is to identify and discuss the challenges and needs of EU Member States, EFTA coastal States and the EU Candidate Countries related to the ratification and implementation of the OPRC-HNS Protocol, and define areas where further assistance could be developed at regional, EU or IMO level.

In order to facilitate the discussions during the workshop's final session, please find below a list of queries³ addressing issues of mutual concern, which you are invited to review prior to the workshop:

- 1- Has your country ratified or is considering ratifying the OPRC-HNS Protocol 2000?
 1.a- If yes, could you indicate if and what type of problems your country has encountered to implement the Protocol?
 1.b- If no, could you describe the main reasons/difficulties that prevent your country from ratifying the Protocol?
- 2- Do the provisions of the OPRC-HNS Protocol and its transposition into national legislation conflict with your domestic legislation? If yes, could you please give examples?
- 3- Is the broad definition of HNS and the lack of a list of identified substances in the OPRC-HNS Protocol an issue of concern when ratifying/implementing the Protocol?
- 4- Does the lack of a minimum international standard for national response mechanisms to HNS spills represent a challenge to ratify/implement the Protocol?
- 5- Has your country dealt with any significant incidents involving HNS cargo or releases in the past? If yes, could you describe the main challenges encountered in dealing with the pollution?
- 6- Do you have regular exercises and training programmes established for vessels and personnel involved in HNS pollution response?
- 7- Is your country participating in any regional or sub-regional agreements covering mutual assistance and co-operation regarding response to HNS marine pollution? If yes, could you describe the advantages of collective planning and response in regard to HNS pollution?

³ Please bring written answers to all questions to the workshop.

- 8- The existing range of tools (e.g. training courses, chemical databases and decision support tools) aimed at assisting the development of preparedness and response capacity for HNS should be tailored to the needs of each country.
 8.a- Are you aware of or using/developing such tools?
 8.b- Do you think that such tools are effective and sufficient?
- 9- Could you identify the training, technical, operational, scientific or information needs of your country as well as areas in which necessary guidance material for HNS marine pollution preparedness and response should be developed?
- 10- Has your country already requested assistance from neighbouring countries, the Regional Agreements, EMSA, the IMO, the chemical industry or other stakeholders in relation to HNS spills?If yes, could you identify the lessons learnt from this co-operation and the topics to be developed and improved?
- 11- Are there any specific actions which could be undertaken at regional, EU or IMO level to facilitate the OPRC-HNS Protocol's ratification and implementation in the EU? Please specify.
- 12- Please describe the main challenges faced by your country when considering the Protocol's ratification or addressing its implementation.Are these mainly of legal, financial, technical, operational or scientific nature?
- 13- Please describe the specific needs/gaps which you think exist in the field of HNS pollution preparedness and response.

IV – References

- IMO website (<u>www.imo.org</u>)
- EMSA Inventory of EU Member States Policies and Operational Response Capacities for HNS Marine Pollution (2008) (www.emsa.europa.eu)

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