



STANDARD OPERATING PROCEDURE

RESPONSE TO HAZARDOUS AND NOXIOUS SUBSTANCES SPILL AT SEA

July 2025



**INDIAN COAST GUARD
MINISTRY OF DEFENCE
GOVERNMENT OF INDIA**

STANDARD OPERATING PROCEDURE (SOP) FOR RESPONSE TO HNS SPILL AT SEA

1. **Introduction.** This SOP is designed for decision making at the National Level in case of a major Hazardous and Noxious Substances (HNS) spill in port/ HNS handling facility or at sea affecting the marine or coastal environment of India. However, National HNS Contingency Plan is to be referred for combating HNS spills and developing State and Facility level contingency plans. Response at the Facility/ State level is to be undertaken by the response agencies as per Facility/ State HNS Contingency Plan. This SOP is developed as a ready reference for speedy decision making for combating major HNS spill by coordinating efforts and resources at various levels. The National HNS-Crisis Management Group (NHNS-CMG) is the apex body to deal with and provide expert guidance for handling major HNS spills. Although, there are numerous ministries and organizations which would be required to act in unison for dealing with any such incident, only the critical departments and stakeholders have been included in the abridged NHNS-CMG which is elaborated in the succeeding paragraphs. This SOP briefly covers definition & classification of HNS, reporting procedures of an incident, Tiered response to HNS spills including escalation matrix and the composition of National Crisis Management Group and the support required from various ministries for combating major spill.

2. **Definition.** As per OPRC-HNS Protocol-2000, 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”.

3. **Classification of HNS.** HNS are classified in five different categories depending on their physical and chemical properties viz. gases, evaporators, dissolvers, floaters and sinkers. The substances might show several behavioural phases throughout a spill depending on the characteristics of products and their

exposure to environmental processes. The physical and chemical properties are predicted in the Safety Data Sheet (SDS) provided by the manufacturer of the material depending upon flammable, reactive, toxic, explosive and corrosive potential.

4. Incident Notification. Any marine environment threat with respect to HNS spills shall be reported to Maritime Rescue Coordination Centres (MRCC) established by Indian Coast Guard and DG Commcentre of Directorate General of Shipping, India. The concerned Facility/ State is to update Indian Coast Guard on response actions being undertaken and provide periodic reports as per the HNS contingency plan. ICG would update the information to the Nodal Ministry and assess any requirement of escalation of response efforts or assistance of National or International level. The contact details of Coast Guard MRCC and Regional Headquarters are as follows:-

Ser No.	Incident Reporting Center a.	Contact Details b.	Email Address c.
1	MRCC Mumbai	022-24388065	mrcc-west@indiancoastguard.nic.in
2	MRCC Chennai	044-25395018	mrcc-east@indiancoastguard.nic.in
3	MRCC Sri Vijaya Puram	03192-245530	mrcc-ptb@indiancoastguard.nic.in
4	Operations Room (North West), Gandhinagar	079-23243264/ 23243283	ops-nw@indiancoastguard.nic.in
5	Operations Room (West), Mumbai	022-24332554/ 24301455	ops-west@indiancoastguard.nic.in
6	Operations Room (East), Chennai	044-25395016/ 23460404	ops-east@indiancoastguard.nic.in
7	Operations Room (North East), Kolkata	033-23248006/ 23248006	ops-ne@indiancoastguard.nic.in
8	Operations Room (A&N), Sri Vijaya Puram	03192-232681/ 245942	ops-an@indiancoastguard.nic.in

5. **Tiered Response.** The aim of Tiered Response is to clearly define responsibility and also to ensure availability of suitable resources at the right place for an effective response. The responsibility for maintaining equipment, workforce and response mechanism for different Tiers is as follows:-

5.1 **Tier-1.** The seaports, HNS facilities and the Coastal State would be having Tier-1 responsibility in their respective area as response agencies.

5.2 **Tier-2.** The Combat agency would be the Indian Coast Guard with the support of Tier-1 response agencies and other resource agencies.

5.3 **Tier-3.** Indian Coast Guard will be coordinating the Tier-3 response with assistance of National and International resources supplementing Tier 1 and Tier 2 response efforts.

Decision and Response Mechanism for Tier-2/ Tier-3 HNS Spills

6. **Emergency Coordination Structure.** The Indian Coast Guard is designated as the Competent National Authority (CNA) for HNS spill response in the MZI. The Director General Indian Coast Guard (DG ICG) is the Central Coordinating Authority (CCA) for HNS spills and has the overall responsibility to coordinate response to any incident at sea. The check-off list for critical actions to be taken in case of a major incident and for consideration of NHNS-CMG is placed at Appendix-A.

7. **National Emergency Management Structure.** The National Crisis Management Committee (NCMC) headed by the Cabinet Secretary constitutes institutional framework at the apex level and deals with major crises which have serious or National ramifications. NCMC will be supported by the National Crisis Management Group (CMG) of the Ministry of Defence.

8. **National HNS Crisis Management Group.** National HNS Crisis Management Group (NHNS-CMG) is the apex body to deal with major HNS pollution incident which has serious or National ramifications. The NHNS-CMG will be assembled by the Chairperson to deal with a major HNS incident requiring National or International assistance. The NHNS-CMG would monitor the situation and suggest measures for response, arrange required manpower, equipment, resources and financial assistance as may be necessary, evaluate responses, and review the adequacy of National & other contingency plans and suggest measures to reduce risks of HNS pollution from sea ports and installations. The composition of NHNS-CMG is as follows:-

Ser No.	Designation	Remarks
	a.	b.
1	Defence Secretary	Chairperson
2	Director General Indian Coast Guard	Member
3	Additional Secretary, Ministry of Defence	Member
4	Joint Secretary (CG), Ministry of Defence	Member
5	Joint Secretary (Coordination), Ministry of Home Affairs	Member
6	Joint Secretary, Ministry of External Affairs	Member
7	Joint Secretary (HSM), Ministry of Environment, Forest and Climate Change	Member
8	Joint Secretary (Ports), Ministry of Ports, Shipping and Waterways	Member
9	Joint Secretary (Exploration), Ministry of Petroleum & Natural Gas	Member
10	Joint Secretary (Admin), Ministry of Earth Sciences	Member
11	Joint Secretary (Admin), Ministry of Science and Technology	Member
12	Joint Secretary (Fisheries), Ministry of Fisheries, Animal Husbandry and Dairying	Member
13	Joint Secretary (Administration), Department of Chemicals, Ministry of Chemicals and Fertilizers	Member
14	Joint Secretary (Environment), Ministry of Commerce and Industry	Member
15	Chairperson of the Concerned Port	Member
16	Director General Hydrocarbon	Member
17	Any member co-opted as deemed necessary	Member

Escalation Matrix for HNS Incidents

9. **Initial Action.** Initial emergency measures are taken by responders and crew of involved ship(s)/ Chemical terminal/ Port/ Chemical company/ ICG or the facility where HNS spill has taken place. The aim is to deploy a response team in the field in order to immediately mitigate the potential impact on human lives, the environment and amenities. Persons in charge of seaports and HNS installations shall identify appropriate individuals to act as a Chief Incident Controller (CIC). The CIC is responsible for the management and coordination of response operations at the scene of a pollution incident to achieve the most cost effective and least environmentally damaging resolution to the problem. The Combat Agencies for responding to chemical spills in various locations are as follows:-

Source/ Location	Combat Agency
At chemical terminals on land near a maritime area	The relevant chemical company or terminal operator under industry arrangements, under the provisions of NDMA guidelines or under the provisions of the Chemical Accidents Rules 1996 (as amended from time to time) established by the Ministry of Environment, Forest and Climate Change. If the response is beyond the capacity of the chemical company or terminal resources, the Statutory Agency like Port Authority or SDMA/ DDMA will respond with assistance from the combat agencies maintained exclusively to address the maritime chemical spills.
In ports and port limits	The chemical industry/ exporter/ importer/ polluter through a tie-up with combat agencies and the relevant port as specified in the relevant contingency plan, with response assistance from other National Plan stakeholders as required.

Source/ Location	Combat Agency
Within shorelines and inter-tidal zones/ internal waters	The relevant chemical company or terminal operator under industry arrangements/ polluter, under the provisions of NDMA guidelines or under the provisions of the Chemical Accidents Rules 1996 (as amended from time to time) established by the Ministry of Environment, Forests & Climate Change. The polluter and the responsible State/ UT Statutory Agency/ SDMA/ DDMA with response assistance from other National Plan stakeholders as required.
In the Maritime Zones of India	The Indian Coast Guard with response assistance from the combat agencies and other National Plan stakeholders as required. In incidents close to shore when chemicals are likely to impact the foreshore, the State/ UT via the Statutory Agency will organize the Combat Agency for protecting the coastline, while DG Shipping assumes responsibility for ship operational matters and international coordination, e.g. organizing salvage, claims, etc.

10. **Response Escalation.** In case, the response for HNS spill is beyond the Tier-1 capability of the seaports, HNS Facilities and the Coastal State, ICG is to be intimated for coordinating Tier-2 response actions with the support of Regional and National resources and Combat Agencies. However, if the National and Regional resources are not sufficient to control the spill, Tier-3 response is to be coordinated by ICG. The flow chart of actions towards escalation of response is placed at **Appendix-B**. Towards Tier-2/3 response actions, ICG would require the assistance of various Ministries and Departments including National Crisis Management Group for HNS spills. The assistance/ expertise/ resources required from Ministries/ Organisations is as follows:-

Ministry of Environment, Forest and Climate Change

- 1 Advise on potential impacts of HNS spills on threatened marine and migratory species.
- 2 Provide advice on habitats in Marine Protected Areas (MPA).
- 3 Cleaning of shoreline affected by HNS pollution through coastal States and Union Territories.
- 4 Environmental Impact Assessment.

Ministry of Ports, Shipping and Waterways

- 1 Monitoring and combating HNS pollution in the Port areas.
- 2 Providing resources from other Ports / Terminals.

Ministry of Earth Sciences

- 1 Advise on ecologically sensitive areas in the coastal and offshore region.
- 2 Provide scientific support for investigations of HNS pollution and monitoring during spills.
- 3 Provide advice on protection of marine resources.

Ministry of Home Affairs/ DM Division

To implement the provisions of National Disaster Management Guidelines for Chemical Disasters through NDMA and SDMA.

Ministry of Petroleum and Natural Gas

- 1 Chartering of tanker(s) for HNS transshipment operations.
- 2 Storage ashore of HNS transhipped from wrecked or damaged tanker.
- 3 Provide equipment and personnel resources and advice on a range of issues, including HNS characteristics.
- 4 Depute an Industry Adviser.

Ministry of Fisheries, Animal Husbandry & Dairying

- 1 Provide latest Sensitivity mapping of the sea areas, particularly within the territorial waters with specific information on fish breeding grounds.
- 2 Technical advise regarding impact of HNS spill on Fisheries resources.
- 3 Issue notifications and implement exclusion zones for fisheries.
- 4 Undertake studies on impact on long term basis on fisheries yield.

Ministry of Chemicals and Fertilisers

To provide expert advice, resources, specialist equipment for response.

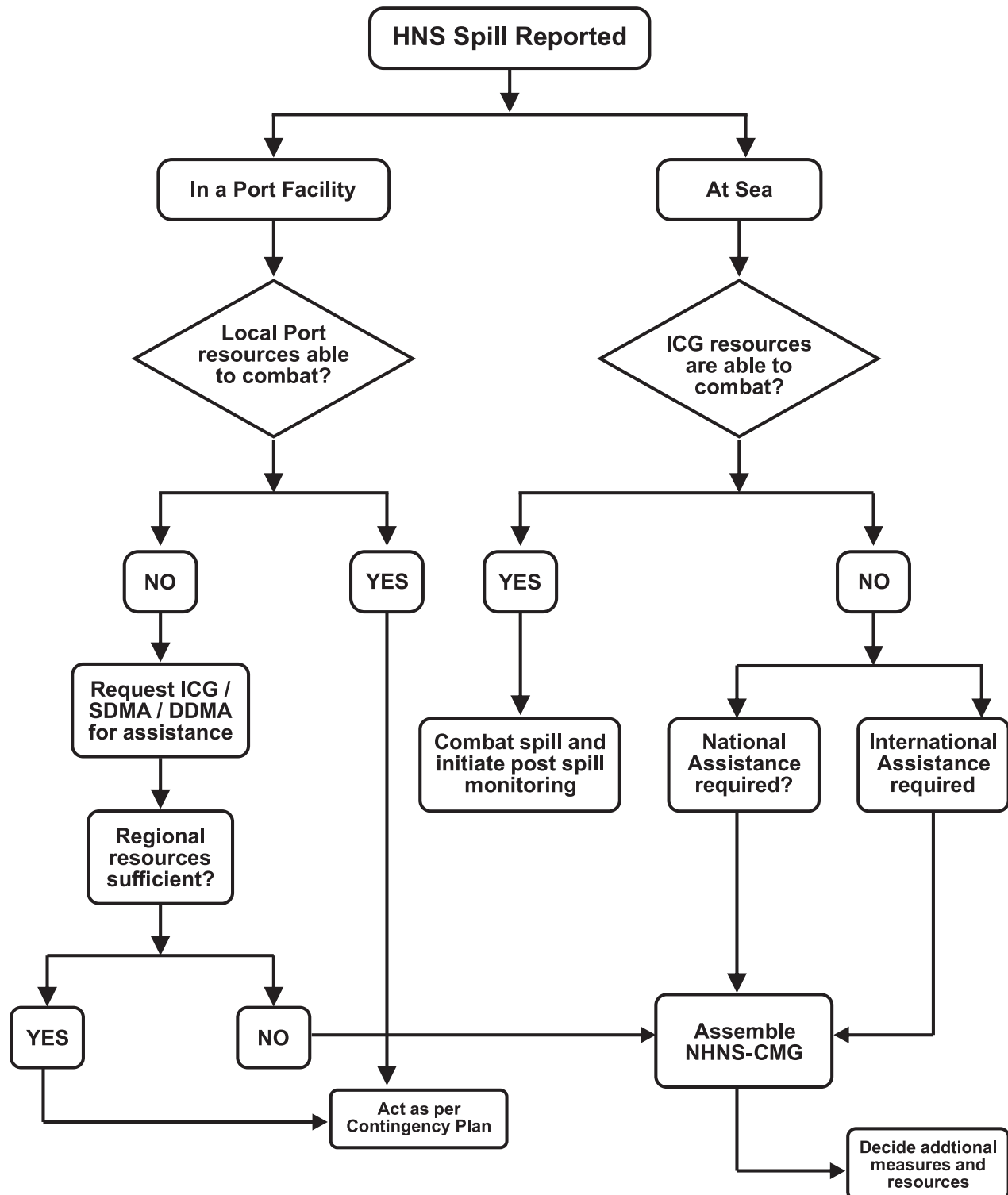
11. Incident Review and Lessons Learnt. The incident review, lessons identified and learnt are to be drawn by ICG in consultation with the stakeholders. Based upon the findings, the areas for improvement are to be identified for mitigating gaps in the response organization. Also, any changes/ modifications in the National HNS contingency plan are to be accordingly incorporated by ICG post approval by the MoD.

CHECK-OFF LIST FOR COMBATING MAJOR HNS SPILL

1. Focal point of information for all agencies established?
2. Has assessment of situation been undertaken? Aerial/ surface surveillance data available?
3. Is there any risk of hazard to coastal population?
4. Are actions as per HNS Contingency plan and NDMA guidelines initiated?
5. Environmental and public health advisory issued?
6. Are evacuation procedures in place and authorities informed?
7. Are medical facilities identified for responders and local populace?
8. Media brief issued on the spill by ICG/ MoD? Regular update being provided?
9. Is Emergency Coordination Center activated?
10. Is correct accounting of response personnel in place?
11. Is update on the current situation provided to ICG?
12. Is update on situation provided by ICG to MoD/ NHNS-CMG?
13. Assess requirement of additional assets, workforce?
14. Is enough expertise (Marine chemists, environment scientist etc.) available for advising on response options?
15. Exclusion zone notified for fishing activity?

16. Shoreline Response Centre (SRC) activated by concerned State?
17. Challenges faced by the responders briefed to NHNS-CMG?
18. National Resources available and plan for mobilization decided by NHNS-CMG?
19. RMPRC has identified available International resources/ agencies for assistance?
20. Detailed report including further measures needed for combating spill presented to NHNS-CMG by ICG?

FLOW CHART - ESCALATION OF RESPONSE





"Synergy for Swachh Sagar Abhiyan"

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