



# **INDIAN COAST GUARD**

## **(MINISTRY OF DEFENCE)**

### **PROCEEDINGS**

### **OF THE**

### **19<sup>th</sup> NOS-DCP AND PREPAREDNESS MEETING**

### **12 MAY 2014**

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EP/0720/19<sup>th</sup> Meeting

Date : 21 May 14

**Proceedings of the Nineteenth National Oil Spill Disaster Contingency Plan (NOS-DCP)  
and Preparedness Meeting held at Chennai on 12 May 2014**

1. The Nineteenth National Oil Spill Disaster Contingency Plan (NOS-DCP) and Preparedness meeting was held at Hotel GRT Grand, 120, Sir Thyagaraya Road, T Nagar, Chennai on 12 May 14. Vice Admiral Anurag G Thapliyal, AVSM & Bar, Director General, Indian Coast Guard, chaired the meeting. The meeting witnessed active participation from various government departments, ports and oil companies. 84 representatives from 46 organizations attended the meeting.

2. In his inaugural address, the Chairman welcomed the delegates from various Ministries, Departments of the Central and State Government, Regional Commanders of Indian Coast Guard, members from major ports and oil handling agencies and the media. Highlighting the back to back oil spill incidents from pipelines at Mahul creek and Uran, the DGICG urged persons in charge of ports and oil installations to review their plans and resources for oil spill contingencies to prevent any recurrence. The Chairman expressed concern over the fact that response to NOS-DCP Circulars had been far from satisfactory and urged all concerned to take urgent steps towards fulfillment of the requirements set out in the NOS-DCP Circulars. The Chairman lauded the keen participation of the stakeholders in the NATPOLREX exercise at sea and the successful conduct of IMO OPRC Level 1 and Level 2 courses for Maldivian and Sri Lankan officers under the trilateral cooperation program. The Chairman requested all stakeholders to endeavour to train adequate numbers of personnel and regularly conduct mock drills and exercises. The full text of the Chairman's inaugural address is placed at **Annexure 'A'**.

3. Comdt (JG) Amit Uniyal, Dy Director(FE) presented an overview of NOS-DCP activities since the last NOS-DCP meeting in May 2013. A handout of the presentation is placed at **Annexure ‘B’**
4. Dr. RS Kankara, Scientist ‘F’, ICMAM-PD made a presentation on “Sensitivity Mapping”. The presentation highlighted the need for sensitivity mapping, its methodology and the factors taken into consideration for development of sensitivity maps. A handout of the presentation is placed at **Annexure ‘C’**
5. Dr. Balakrishnan Nair, Head-ISG, INCOIS made a brief presentation on the “Online Oil Spill Advisory” system developed by INCOIS. A handout of the presentation is placed at **Annexure ‘D’**.
6. The Chairman thereafter released the experimental version of the Online Oil Spill Advisory system by INCOIS and the draft revised NOS-DCP prepared by the Directorate of Fisheries and Environment Protection, Coast Guard Headquarters, New Delhi.
7. Following the release of the draft revised NOS-DCP, DIG AA Hebbar, TM, Director (FE), CGHQ made a presentation to briefly introduce the salient features of the revised plan. A handout of the presentation is placed at **Annexure ‘E’**.
8. The actionable agenda from previous meetings discussed and deliberated upon during the 19<sup>th</sup> NOS-DCP meeting included Tier-1 facilities at MbPT and JNPT, preparation of local contingency plan, mapping of no-OSD use areas, oil fingerprinting laboratory, surveillance system by ports against illegal discharge, Tier-1 capabilities, promulgation of optimum response time, requirement of identifying private OSROs, bunker information in PANS, programme for joint inspections, operation of vessels beyond SEZ and OPRC amendments to MS Act, 1958. Discussions and decision on the actionable points of previous meetings is placed at **Annexure ‘F’**.
9. Specification of dedicated Oil Spill Response Officer (OSRO) at port facilities and oil installation, creation of centre of excellence, subsea well intervention systems and subsea oil spill dispersant systems, establishment of shoreline response trailer in every coastal state, and streamlining of OSD approval system were amongst the points discussed under new agenda. The discussions and decision on new agenda points is placed at **Annexure ‘G’**.
10. In his concluding address, the Chairman stated that it was his strong belief that everyone stands to gain and enrich their collective knowledge and experiences through continuing engagements in the form of meetings, joint exercises and other fora to emerge better prepared to tackle any issues relating to oil pollution response. The Chairman earnestly requested all concerned agencies to expedite issues that are long pending and seek all necessary assistance from the

Coast Guard, where necessary. The Chairman particularly requested that comments on the draft revised NOS-DCP may be forwarded in a time bound manner so that the revised NOS-DCP may be implemented without delay. The text of the Chairman's concluding address is placed at **Annexure 'H'**.

11. A summary of actionable points is placed at **Annexure 'J'**. The programme of the meeting and the list of delegates attended the meeting are placed at **Annexure 'K'** and **Annexure 'L'** respectively.

12. This is for information and necessary action.



(AA Hebbar)  
Dy Inspector General  
Director (Environment)

## **INAUGURAL ADDRESS BY THE DGICG**

*Regional Commanders of the Indian Coast Guard, representatives of various ministries and departments of the central and state governments, members representing major ports and oil handling agencies, members representing other stakeholders, and distinguished participants,*

*Good morning and a very warm welcome to the 19<sup>th</sup> NOS-DCP and Preparedness meeting here at Chennai.*

1. Perhaps, one could not be more pleased at this point in the process and I appreciate all the good work being put in by everyone to gear up for oil spills. I also appreciate your participation in this important forum. As we are all aware, the objective of this annual meeting is to review our preparedness and response capabilities, with the common aim to prepare ourselves to respond to any oil spill contingency in Indian waters. In the course of the meeting, we shall take stock of our capabilities and limitations and also review the progress made on the various issues since the last NOS-DCP meeting held at Dehradun on 31 May 2013.

2. To begin with, there were two oil spill incidents in the past year; considerable leakage of oil from a pipe line at Mahul Creek in Mumbai Port Trust that transports crude oil to the BPCL refinery in Chembur which was detected on 29 Oct 2013, and closely preceded by another incident on 07 Oct 2013 due to rupture of the ONGC's Mumbai High-Uran pipe line at its Uran plant across Mumbai harbour. We share the concerns of the Maharashtra Pollution Control Board on the response of the entities in both these incidents, and urge persons in charge of all ports and oil installations to review their plans and resources for oil spill contingencies to prevent a recurrence.

3. Besides these two incidents, there was also the potential threat of oil spill from the 230 odd tonnes of bunkers trapped in the m.v. Bingo, consequent to its sinking in the approaches to Hoogly harbour. The Kolkata Port Trust authorities and the West Bengal Pollution Control Board

played a proactive role in pursuing with the owners for removal of the trapped oil through a contract with M/s Smit Salvage whilst the Coast Guard deployed its ships and aircraft to monitor the wreck and responded to the occasional minor spills.

4. Distinguished participants would be aware that the Coast Guard has instituted numerous measures, through issuance of Chairman NOS-DCP Circulars, to enhance the preparedness for oil spills. These include the requirement of installing radar oil spill detection system at sea ports and oil handling facilities, requirement of a certificate of endorsement by persons in-charge of ports and oil installations to ensure accountability for the facility oil spill contingency plans, and requirement of pre-booming of tankers at alongside berths and SPMs, or equivalent arrangements. However, compliance has been far from satisfactory and I would urge all stakeholders to take urgent steps for fulfillment of the requirements set out these Circulars.

5. Perhaps, all of us are agreed on the fact that even the best of equipment would be in vain if we do not maintain adequately trained and motivated manpower to respond to contingencies and regularly rehearse our response procedures. Thus, when the Coast Guard conducted the fifth, annual, national level pollution response exercise, or NATPOLREX-V, off Mumbai, on 9<sup>th</sup> and 10<sup>th</sup> December 2013, to validate preparedness for oil pollution response and rehearse synchronized deployment of the resources of all agencies, it was indeed heartening to witness the participation of the resources of the SCI, Mumbai and Jawaharlal Nehru port trusts, ONGC, Navy and other resource agencies, alongside that of the Coast Guard.

6. Gentlemen, while I would urge all the stakeholders to continue with their enthusiastic participation, with assets, in the NATPOLREX exercises, I would like to draw your attention to the fact that NATPOLREX-V achieved two significant milestones – the maiden participation of an Indian Air Force Super Hercules C130J aircraft ushering possibilities for spraying of oil spill dispersants at enhanced rates and the first-ever participation of ten International observers from Maldives and Sri Lanka who were also trained in back-to-back IMO OPRC Level 1 and Level 2 programs at Mumbai by the Coast Guard. These ten personnel, five each from Maldives and Sri Lanka were trained by the Indian Coast Guard in IMO OPRC level 1 and level 2 courses conducted from 24 November to 11 December 2013 as part of Indo-Maldives-Sri Lanka Trilateral Cooperation program.

7. Well, we have been witnessing a growing interest and participation of the industry stakeholders in our IMO OPRC Level 1 and Level 2 training programs. Since the last NOS-DCP meeting, the Indian Coast Guard has trained 116 personnel of various stakeholders in IMO Level 1 course, apart from 48 personnel in Level 2 course jointly with AMET University. I would request all Stakeholders to collectively endeavor to train adequate numbers of personnel and regularly conduct mock drills and exercises for managing pollution response.

8. Before I conclude my address, I must say that in spite of the numerous hurdles and hindrances, we have pulled together quite appreciably thus far. Nevertheless, I would like to emphasize that it is important for persons in charge of ports and oil installations to put in place necessary preventive measures and maintain adequate preparedness for any oil spill contingency which is only possible, if everyone works together towards this common goal.

9. I wish to reiterate that the aim for the conduct of this NOS-DCP meeting is to review our preparedness for oil spill contingencies and work towards its enhancement. With these opening remarks I look forward to successful deliberations in the meeting.

Jai hind



## **NOS-DCP OVERVIEW BY DIRECTOR (FE)**

### **NOS-DCP OVERVIEW**

Commandant (JG) Amit Uniyal  
Dy. Director Environment  
Indian Coast Guard

Presentation at the 19<sup>th</sup> NOS-DCP & Preparedness Meeting, 12 May 2014, Chennai

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### **SCOPE**

- RISK OVERVIEW
- CONTINGENCY PLANNING
- PLANNING OF RESOURCES
- TRAINING
- MOCK DRILLS AND EXERCISES
- RESPONSE TO INCIDENTS

3

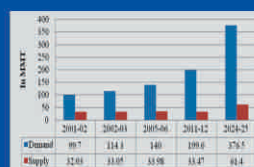
### **RISK OVERVIEW**

- THIRD LARGEST IMPORTER OF CRUDE OIL
- 12,000 SHIPS VISIT INDIAN PORTS
- 100,000 SHIPS THROUGH INDIAN WATERS, INCLUDING NEARLY 3,000 TANKERS
- 200 MILLION TONS CRUDE OIL RECEIVED IN INDIA IN 2013
- ABOUT 550 MILLION TONS PER YEAR GO THROUGH INDIAN WATERS

3

### **RISK OVERVIEW**

- PRODUCTION 32-33 MMTPA
- IMPORT 140.25 MMPTA WEST & 46.75 EAST COAST



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### **TIER-1 PREPAREDNESS MANPOWER**

PORT	TRAINED MANPOWER	
	LEVEL-1	LEVEL-2
Kandla	06	NIL
Mumbai	05	01
Mormugao	01	NIL
New Mangalore	01	NIL
Cochin	02	NIL
VOC, Tuticorin	01	02
Chennai	02	03
Ennore	01	01
Vizag	01	NIL
Paradip	05	NIL
Kolkata	NIL	NIL
Haldia	02	03

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### **JOINT INSPECTIONS OF TIER-1 PREPAREDNESS**

FACILITY	DATE OF INSPECTION
VIZAG PORT	13 AUG 13
BPCL KOCHI	21 AUG 13
JNPT	19 SEP 13
MbPT	20 SEP 13
KOCHI PORT	22 NOV 13
HPCL VIZAG	08 JAN 14

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### CHAIRMAN NOSDCP CIRCULARS

- RADAR OIL SPILL DETECTION SYSTEM AT SEA PORTS AND OIL HANDLING FACILITIES
- CERTIFICATE OF FACILITY OIL SPILL RISK ASSESSMENT AND RESPONSE PREPAREDNESS
- PRE-BOOMING OF TANKERS AT ALONGSIDE BERTHS AND SPMs



### SEMINAR AND MOCK DRILLS

PLACE	DATE	STRENGTH
Karaikal	02-03 May 13	20
Vizag	20 Jun 13	40
Paradip	19 Aug 13	40
Kakinada	18 Sep 13	20
Krishnapatnam	17 Dec 2013	19
Tuticorin	22 Jan 2014	25
Chennai	11-12 Feb 2014	25



### IMO LEVEL- 1 TRAINING

PLACE	COURSE DATE	STRENGTH
Vadinar	22-25 Oct 13	24
Mumbai	21-25 Oct 13	17
Chennai	29 Jul- 02 Aug 13	22
	25 - 29 Nov 13	13
	24 - 28 Mar 14	20
Port Blair	15 - 19 Jul 13	01
	17 - 21 Feb 14	04



### IMO LEVEL 2 TRAINING

PLACE	COURSE DATE	STRENGTH
CHENNAI	26 - 30 Aug 13	25
	24 - 28 Feb 14	16



### TRILATERAL COOPERATION

- INDO-MALDIVES-SRI LANKA COOPERATION FOR STRENGTHENING MARINE POLLUTION RESPONSE
- IMO OPRC LEVEL-1 AND LEVEL-2 TRAINING



### TRILATERAL COOPERATION

- 25 NOV - 07 DEC 13 AT MUMBAI
- 05 PARTICIPANTS EACH FROM MALDIVES AND SRI LANKA



### EXERCISES

LEVEL	PLACE	DATE
Level - 1	Paradip	20 Aug 13
	Kakinada	19 Sep 13
	Vadinar	24 Oct 13
	Beyppore	06 Nov 13
	Tuticorin	23 Jan 14
	Vadinar	22 Feb 14
	Ratnagiri	06 Mar 14
Level - 2	Murud Janjira (Revdanda Port)	02 Apr 14
	Goa	28-29 Oct 13
	Kochi	24-25 Feb 14



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### NATPOLREX -V

- NATIONAL LEVEL POLLUTION RESPONSE EXERCISE
- *CLEAN SEA-V*
- 09-10 DEC 2013
- RESOURCE AGENCIES ASSET: ICG, NAVY, IAF, MbPT/JNPT, ONGC, SCI



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### NATPOLREX -V

- MAIDEN PARTICIPATION OF IAF C-130 SUPER HERCULES
- TEN INTERNATIONAL OBSERVERS AS PARTICIPANT FROM MALDIVES AND SRI LANKA.



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### URAN OIL SPILL

- REPORTED ON 07 OCT 13
- APPROX 04-05 CU M CRUDE OIL SPILLED
- LEAKAGE ARRESTED BY CLAMPING.
- RECOVERED 25 BARREL OF OIL
- COLLECTIVE CLEANUP BY STAKE HOLDERS/PRIVATE CONTRACTOR



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### MAHUL CREEK OIL SPILL

- REPORTED ON 29 OCT 2013
- IMPACTED MANGROVES OVER AN AREA OF APPROX 20,000 SQ.MTRS
- EIL ENGAGED FOR HEALTH STUDIES OF FIVE PIPE LINES
- PRIVATE CONTRACTORS FOR CLEANUP OPERATION



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### SINKING OF MV BINGO

- SANK 22 NM SOUTH OF SAGAR ISLAND ON 12 OCT 2013 DURING SEVERE CYCLONE PHAILIN
- VESSEL HAD 232MT OF FFO AND 30MT OF DIESEL
- TOTAL 115 TONS OF OIL RECOVERED.



## Annexure 'C'

(Refers to para 4)

### PRESENTATION BY DR RS KANKARA, SCIENTIST 'F', ICMAM-PD

**Sensitivity mapping for Effective Oil Spill Management**

*The threat of oil spills in Marine Environment demands preparedness to protect sensitive habitats. Oil Sensitivity Mapping is a useful aid for Oil Spill Responders to arrive appropriate decisions to minimise damage of Marine environment.*

**Dr. R. S. Kankara**  
Scientist F & Head, Coastal Processes & Shoreline Management  
ICMAM-PD, Ministry of Earth Sciences, Chennai  
kankara@icmam.gov.in

19<sup>th</sup> NOS-DCP Meeting at Chennai on 12<sup>th</sup> May 2014

**Oil Spill management: a generalized approach**

Based on scale of the oil spill      Contingency planning process

Large Spill			Tier Three
Medium Spill		Tier Two	
Small Spill	Tier One		
	Local	Regional	National

Strategic  
Tactical  
Operational

Strategic plans are designed with the entire accident in mind and begin with an incident's mission.  
concerned with the responsibility and functionality of concerned to fulfill their parts of strategic plan.  
concerned with the operational response and clean up fulfill their parts of tactical plan.

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**Environmental Sensitivity due to oil spills**

**IMO/IPIECA Definition**

- Resources, habitats, sites or activities are considered sensitive to oil spills because they are:
  - ✓ of environmental, economic, social or cultural importance;
  - ✓ at risk of coming in contact with spilled oil; and
  - ✓ likely to be affected once oiled or affected by the oil even without direct contact.

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**Environmental Sensitivity mapping: why???**

- Sensitivity mapping enables:
  - Most sensitive sites/resources to be identified
  - Priorities for spill response & clean up to be defined
- Successful sensitivity map informs the development of:
  - Oil spill response strategy and contingency plans
  - Waste management strategies
  - Response equipment deployment
  - Response maps and databases

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**Sensitivity Mapping – A generalized approach**

**Stages for generating oil spill sensitivity maps:**

- ✓ Define the Study Area
- ✓ Identify potential sensitive resources and constraints
- ✓ Acquire baseline data for analysis
- ✓ Conduct sensitivity assessment
- ✓ Discuss, Share and apply results
- ✓ Keep updating the information

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**Sensitivity Assessment**

- Map resources with respect to sensitivity to spill
- Sensitivity criteria will vary by location/Project
- Existing international guidelines define maps not methods (we must have a standard set of guidelines for Indian coast)
  - Use of Standard symbols and legends
  - Standardized terminology and nomenclatures
  - Fixed definition of High/Medium/Low etc. risks

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### Shoreline sensitivity mapping to oil spills

- ✓ the nature/type of shoreline varies from place to place and sensitivity depends upon the nature of shore.
- ✓ The primary factors that influence the sensitivity of shoreline to oil spill are :
  - ✓ shoreline type (grain size, slope) which determines the capacity of oil penetration on the shore, and movement;
  - ✓ exposure to wave / tidal energies which determines the natural persistence time of oil on the shoreline; and
  - ✓ general biological productivity and sensitivity.
- ✓ An Environmental Sensitivity Index (ESI) may be used to define the sensitivity of coastline considering the state of shoreline ranging from 1 (low sensitivity) to 10 (very high sensitivity).

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### Sensitivity Assessment - Shoreline

#### Well defined International Guidelines (IMO/IPIECA from NOAA)

1A. Exposed rocky shore	18A. Sheltered scarps in bedrock, mud or clay and sheltered rocky shore
1B. Exposed, solid man-made structures	18B. Sheltered, solid man-made structures
1C. Exposed rocky cliffs with boulder talus base	18C. Sheltered riprap
2A. Exposed wave-cut platforms in bedrock, mud or clay	18D. Sheltered rocky rubble shores
2B. Exposed scarps and steep slopes in clay	18E. Peat shorelines
3A. Fine to medium-grained sand beaches	19A. Sheltered tidal flats
3B. Scarps and steep slopes in sand	19B. Vegetated low banks
4. Coarse-grained sand beaches	19C. Hyperaline tidal flats
5. Mixed sand and gravel beaches	19A. Salt and brackish water marshes
6A. Gravel beaches (granules and pebbles)	19B. Freshwater prairies
6B. Riprap structures and gravel beaches (cobbles and boulders)	19C. Swamps
7. Exposed tidal flats	19D. Mangroves

May require field verification, some classes cannot be differentiated purely from desk study.

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### Biodiversity - Sensitive Elements Of The Coast

- Mapping both protected areas and areas of biodiversity importance should include the coastal species, habitats and natural resources that could be affected by accidental oil pollution.
- This includes:
  - protected areas and important areas of biodiversity notified by Govt of India
  - different types of coastal habitats/ecosystems such as Coral reef, mangrove, Sea grass, Mudflats etc; and
  - endangered species that can be identified using the IUCN Red List.

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### Mapping of Sensitive Socio-Economic Features

- Aquaculture; artisanal and commercial fishing, and fishing villages;
- Water intakes (salt marsh plant, desalination plant, aquaculture and salt production, industrial use);
- tourism and recreation areas (hotels, restaurants, beaches, recreational activities etc.);
- port (including the activities and infrastructures);
- industrial activities (relying on maritime transport);
- infrastructures related to oil exploration, production and transport activities; and cultural sites (archaeological, historical, religious, etc.).
- It is important to note that socio-economic features may also be subject to high seasonal variation, e.g. tourist season, fishing season, aquaculture season, etc. and, if possible, seasonal information should be mapped and/or added as additional information accompanying the maps.

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### Mapping of Oil Spill Response Operational and Logistical Features

#### General logistic and operational resources include:

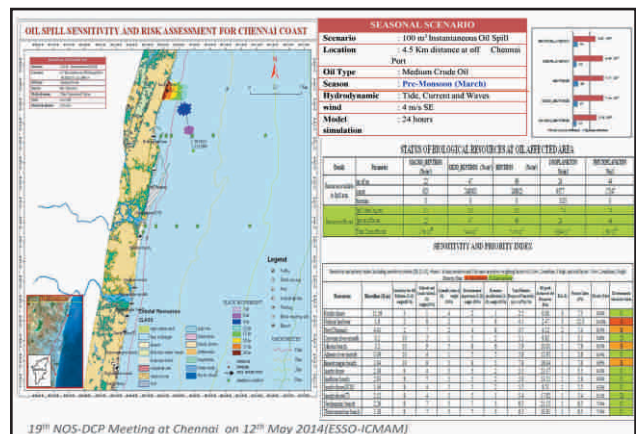
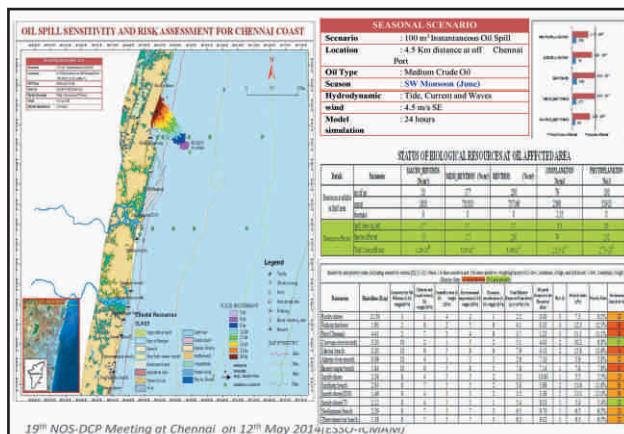
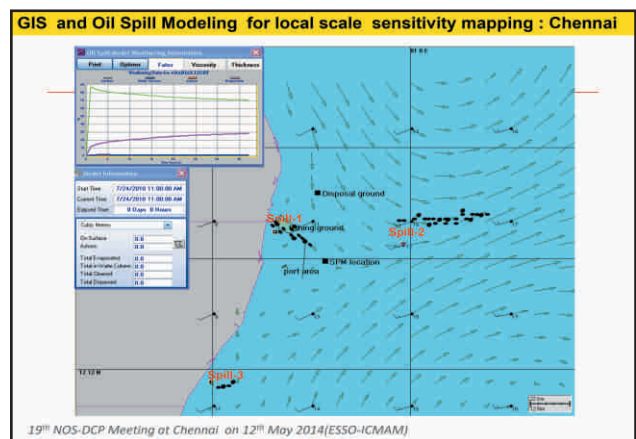
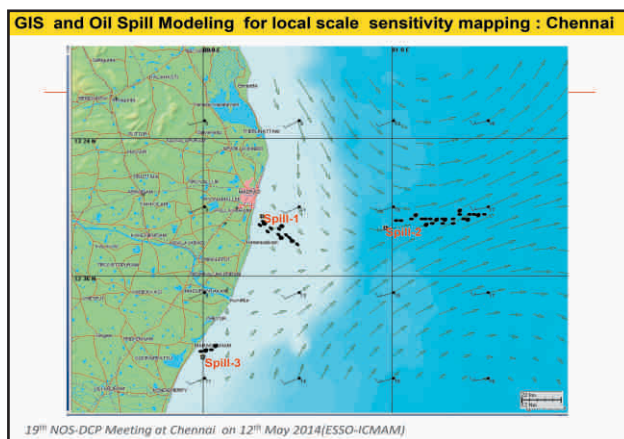
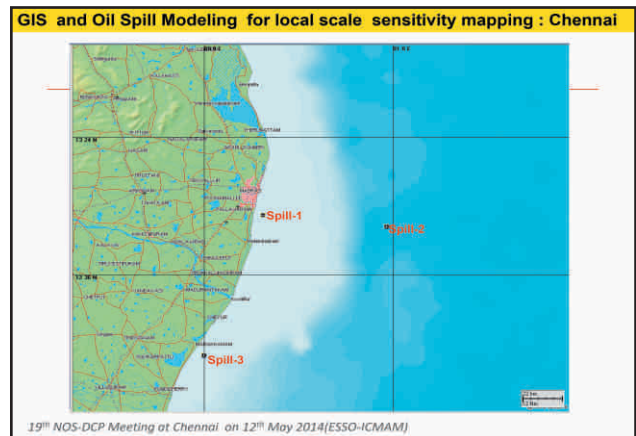
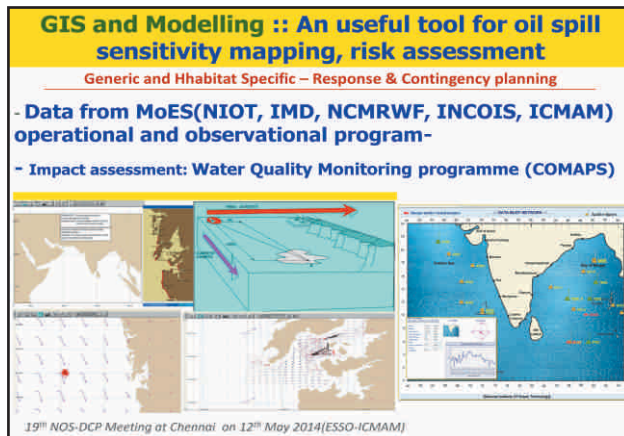
- detailed information to assist the On-Scene Commanders and operators on site for the response operations (without overloading the map);
- location of incident command posts and their geographical limits;
- existing stockpiles of equipment;
- pre-approved dispersant areas and their geographic limit(s);
- environmental recommendations (optional) to limit the impact of the pollution / cleaning
- operations, particularly in the sensitive areas.
- The logistic and operational resource data must be accurate and well documented to be helpful to the responders. They should be validated during field missions and updated frequently.

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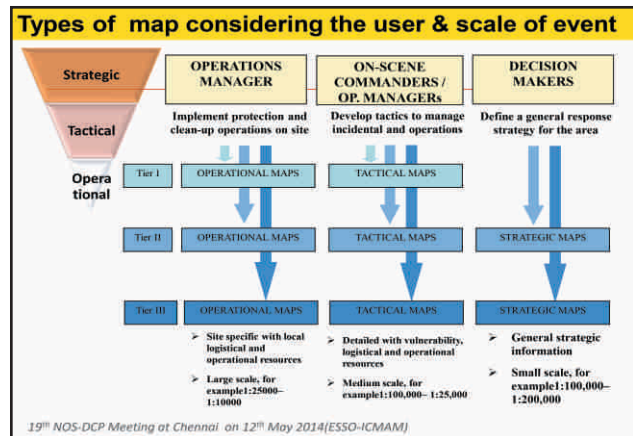
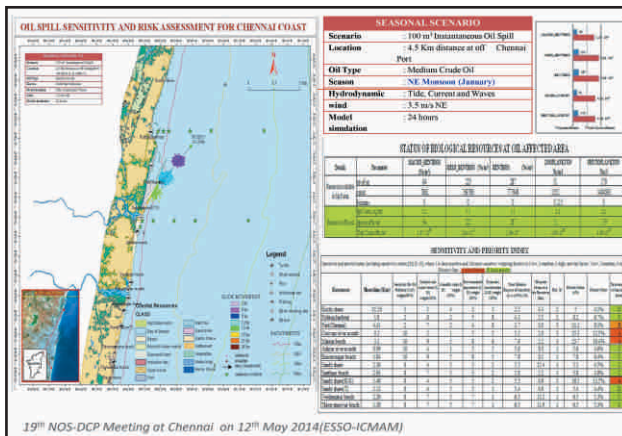
### Major Critical Coastal Marine Ecosystem

High & unique biodiversity Habitats, Tourism & recreational coast, Archeological, historical & pilgrimage sites









ESI 1A

- 1A – Exposed rocky shore  
 1B – Exposed solid man made structures  
 1C – Exposed rocky cliffs

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ESI 2A

- 2A – Exposed wave cut platforms  
 2B – Exposed scarps and steep slopes in clay

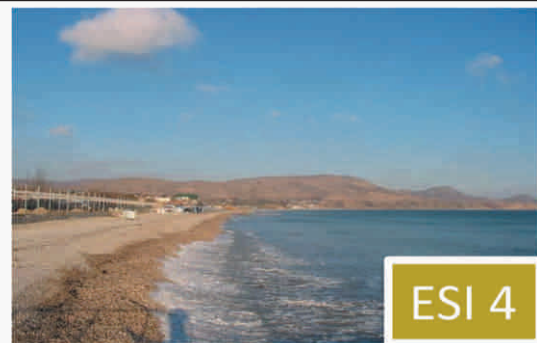
19<sup>th</sup> NOS-DCP Meeting at Chennai on 12<sup>th</sup> May 2014(ESSO-ICMAM)



ESI 3A

- 3A – Fine to medium- grained sand beach  
 3B – scarps and steep slopes in sand

19<sup>th</sup> NOS-DCP Meeting at Chennai on 12<sup>th</sup> May 2014(ESSO-ICMAM)



ESI 4

- Coarse grained sand beaches

19<sup>th</sup> NOS-DCP Meeting at Chennai on 12<sup>th</sup> May 2014(ESSO-ICMAM)



ESI 5

**Mixed sand and gravel beaches**

19<sup>th</sup> NOS-DCP Meeting at Chennai on 12<sup>th</sup> May 2014(ESSO-ICMAM)



ESI 6A

**6A – Gravel beaches (granules and pebbles)  
6B – Riprap structures and gravel beaches**

19<sup>th</sup> NOS-DCP Meeting at Chennai on 12<sup>th</sup> May 2014(ESSO-ICMAM)



ESI 7

**Exposed tidal flats**

19<sup>th</sup> NOS-DCP Meeting at Chennai on 12<sup>th</sup> May 2014(ESSO-ICMAM)



ESI 8A

**8A –rocky shores  
8B –solid man-made structures**

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ESI 9A

**9A – Sheltered tidal flats  
9B – Vegetated low banks**

19<sup>th</sup> NOS-DCP Meeting at Chennai on 12<sup>th</sup> May 2014(ESSO-ICMAM)



ESI 10 D

**10A – Salt / brackish water marsh  
10B – Swamps/ Mangroves**

19<sup>th</sup> NOS-DCP Meeting at Chennai on 12<sup>th</sup> May 2014(ESSO-ICMAM)



### Summary: Maps and Information

#### Strategic sensitivity maps ( National Scale): Decision makers

- The strategic maps is primary level of map in small scale which help the planners and decision makers in devising the general response strategy
- In identifying the most sensitive sites to define priority actions
- considers technical feasibility, potential limitations of various response operations

#### Tactical sensitivity maps ( Regional Scale)- for Planners & OSC

- provides information about the various types of environment that may be affected by a spill (sand beaches, rocky coast, marshes, etc.).
- takes into account operational constraints (limited access, hazardous areas, etc.) that the planner should consider when developing the response strategy.

#### Operation sensitivity maps(Local Scale) – Executers & Operators

- the operational map with risk analysis, combined with an oil spill drift study based on the prevailing winds and currents, should be prepared.
- Identifies the location of High Risk Areas with on large scale maps

19<sup>th</sup> NOS-DCP Meeting at Chennai on 12<sup>th</sup> May 2014(ESSO-ICMAM)



## Annexure 'D'

(Refers to para 5)

### PRESENTATION BY DR BALAKRISHNAN NAIR, HEAD-ISG, INCOIS

# ONLINE OIL SPILL ADVISORY – The Beta Version

Dr.T.M. BALAKRISHNAN NAIR & S.J PRASAD  
INCOIS, MoES, GOVT OF INDIA  
Email : [bala@incois.gov.in](mailto:bala@incois.gov.in) , [prasadsj@incois.gov.in](mailto:prasadsj@incois.gov.in)



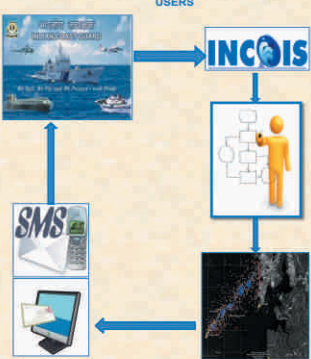
### INCOIS AID IN OIL SPILL PREPAREDNESS AND RESPONSE

**DISSEMINATION OF OIL SPILL ADVISORY TO THE USERS**

**SIGNIFICANCE OF OIL SPILL TRAJECTORY PREDICTION**

India possessing sensitive ecosystems and aquatic organisms along its coastline comprising estuaries, lagoons, mangroves, backwaters, salt marshes, mudflats, rocky shores, sandy structures and known for its coastal and Marine biodiversity. The marine habitats are being affected due to the oil spills caused due to vessel collisions and illegal discharges. In order to prevent the impact of oil spills on the marine environment an oil spill trajectory prediction system is required, to provide the trajectory of an oil spill thereby protecting the Marine habitats.

In the event of oil spill, the direction and movement of the oil will be predicted in advance in our system and will be disseminated to the Regulatory Authority. The clean up and control measures will be planned and carried out accordingly.



### OIL SPILL TRAJECTORY PREDICTION-METHODOLOGY

**METHODOLOGY**

1. Time/latitude/longitude of the spill  
2. Type/Quantity of spilled oil

CMF - FORCING PARAMETERS  
1. ECMWF WINDS  
2. ROMS CURRENTS

SAR DATA

GNOME

SPILL TRAJECTORY

ANALYSIS/VALIDATION IN A COMMON PLATFORM

**DESCRIPTION**

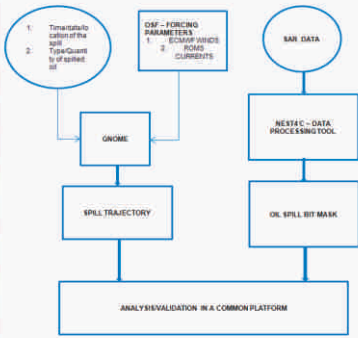
> GNOME, an oil spill trajectory model developed by NOAA is used in this prediction system.

> The details such as time, date, location, type and quantity of the oil spilled will be obtained the Regulatory authority / users. The major forcings like ECMWF winds and ROMS currents are the driving parameters.

> The predicted trajectory will be disseminated to the users in movie, image and text formats.

> The available SAR data will be subjected to oil spill detection

> Both the observed and the predicted trajectory will be compared in a common platform.



### INDIAN NATIONAL CENTRE FOR OCEAN INFORMATION SERVICES (An Autonomous Body under the Ministry of Earth Sciences, Government of India)

## ONLINE OIL SPILL ADVISORY (OOSA)

WELCOME TO OIL SPILL TRAJECTORY PREDICTION

**USER INFORMATION**

Name:   
Organization:   
Email:   
Contact no:

**SPILL INFORMATION**

Region of Spill:

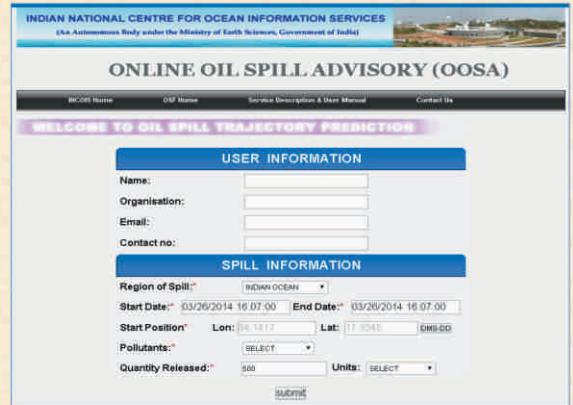
Start Date:  End Date:

Start Position:  Lon:  Lat:

Pollutants:

Quantity Released:  Units:

<http://172.16.1.15:8080/OilSpill/index.html>




### OIL SPILL TRAJECTORY PREDICTION SYSTEM

Oil Spill Information	
Start Date:	01/21/2014 15:20:00
End Date	01/23/2014 15:23:00
Start Longitude	84.1417
Start Latitude	17.8545
Pollutants	CONSERVATIVE
Quantity Released	500 BARRELS
Trajectory Prediction for	48 Hours

Your process is completed successfully and the output will be sent to your Email

[Download Output](#) [BACK to HOME](#)



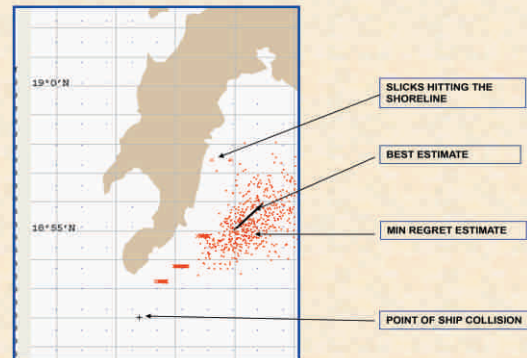
### SALIENT FEATURES OF THIS SYSTEM

1. INCOIS being the first organization in India to initiate/issue Online Oil Spill Advisory to their users.
2. Users can submit their request online
3. Moreover they themselves can trigger the model and get the output.
4. The predicted trajectory will be generated immediately and will be disseminated to their emails.
5. This system will also eliminate the telephonic and fax traffic during emergency situations.

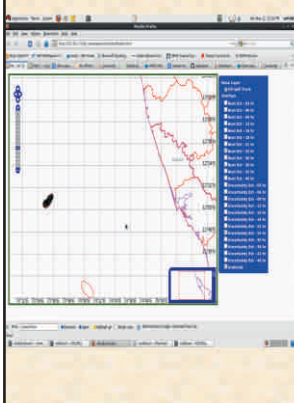
### The Generation of advisories

- The oilspill model is forced by the OSF system at INCOIS
- Predict how wind, currents, and other processes might move and spread oil spilled on the water.
- It gives the best estimate (black color) and Minimum regret estimates (red color) of spill trajectories.

### Advisories-Static Map



### Advisories-Open layer Map



Every LE/spill dots indicates

- Position in Lon, lat (degrees)
- Time of release (seconds)
- Status of the particle with time.
- Pollutant type
- Mass of the pollutant(grams)
- Age – time since release (seconds)

Types of release

- One time/ instantaneous
- Continuous

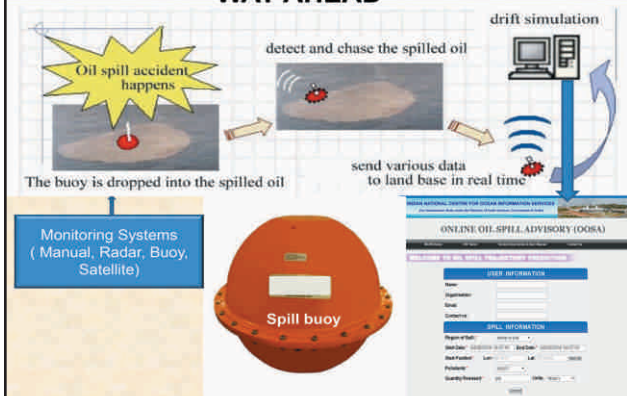
### Feedback requirement

- Once after the registration, secured access will be given to the users.
- The zones/areas which are likely be affected/subjected to oil spill will be obtained from this system
- Users are requested are provide the feedback/observation, after each and every executions.
- Users are also requested to extend their support in validating our executions/conducting mock drills, so that the performance evaluation/upgradation of the system can be done.

### WAY AHEAD

- Planned for monitoring Systems in association with Coast Guard and Port and Harbors'
- INCOIS will deploy spill buoys for validation of the oilspill trajectory
- Eccosensitive areas will be included in the advisories
- More mokedrills will conducted in association with ICG and oil companies
- High resolution forcing fields from OSF system will be incorporated for improving the spatial and temporal accuracy

### WAY AHEAD




## **INTRODUCTION TO REVISED NOS-DCP BY DIG AA HEBBAR, TM, DIRECTOR (ENVIRONMENT)**

# **INTRODUCTION**

to

# **REVISED NOS-DCP**

**DIG AA Hebbar, TM**  
Director (Environment), Coast Guard Headquarters




## **Introduction**

- Approved by Committee of Secretaries to GoI on 04 November 1993
- First promulgated in July 1996
- Updated in 1998, 1999, 2000, 2002 and 2006
- Originally designed for responding to oil spills


  

- Completely revised to reflect current international norms and best practices, key relevant national regulations, and cumulative experience
- Revised version facilitates national preparedness to HNS incidents and also fulfils obligation to have in place national plan to respond to HNS incidents as India is in process of accession to OPRC-HNS Protocol, 2000
- Revised NOS-DCP 2014 comprises nine Chapters and 41 Appendices



## **Scheme of Chapters**

1. Introduction
2. Emergency Organization
3. Division of Responsibility
4. Preparedness Management
5. Discovery and Notification
6. Initial Response
7. Response to Oil Spills
8. Response to HNS Incidents
9. Plan Review



## **Hierarchy of Contingency Plans**

```
graph TD; A[National Oil Spill Disaster Contingency Plan] --> B[Regional Oil Spill Disaster Contingency Plan]; B --> C[District Oil Spill Disaster Contingency Plan]; C --> D[State Oil Spill Disaster Contingency Plan]; D --> E[Facility Plan];
```



## **Designed Spill Size**

**NO CHANGE**

**10,000 tons**

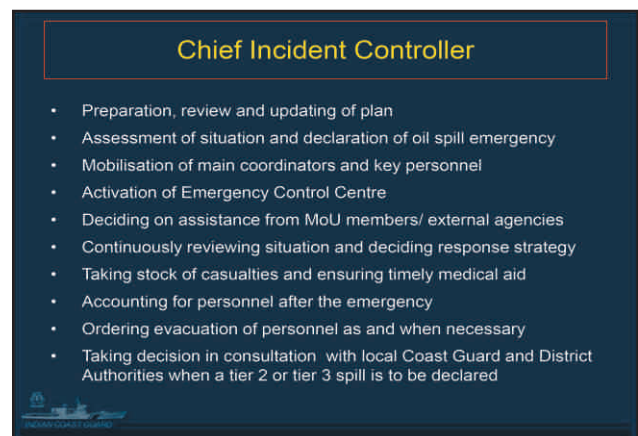
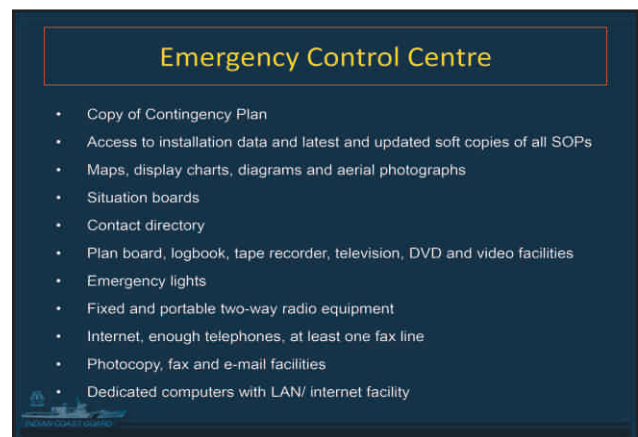
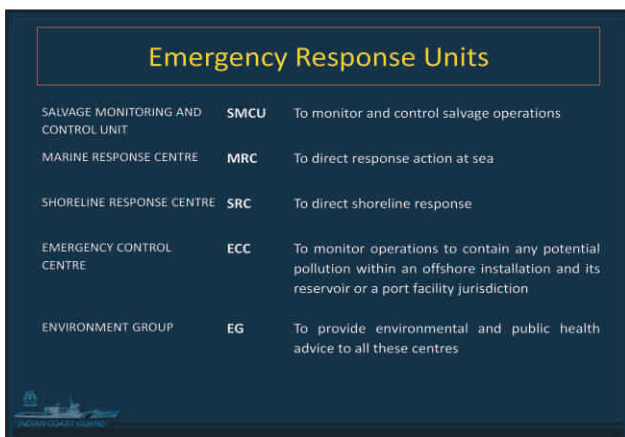
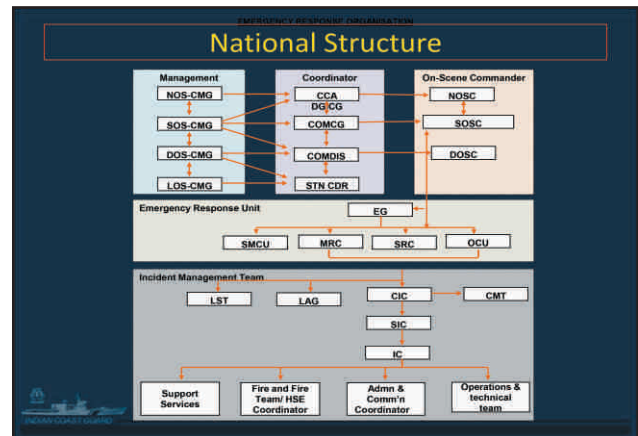
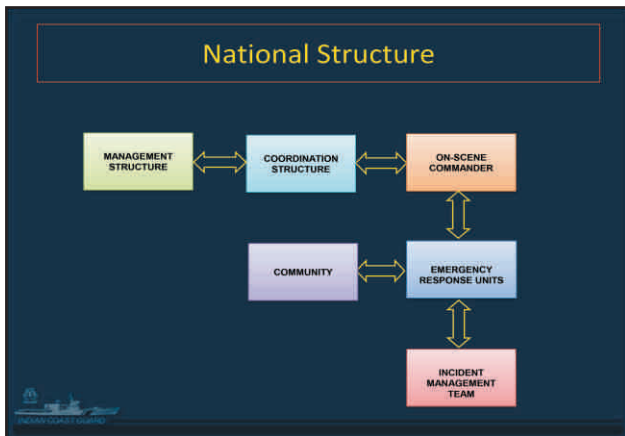


## **Regulatory Framework**

- Merchant Shipping Act, 1958
- Rules under Merchant Shipping Act
- Other related national regulations
- The Environment (Protection) Act, 1986
- Rules under Environment Protection Act
- Other related statutes for management of HNS







### Site Incident Controller

- Maintain workable plan, establish ECCs, and train personnel
- Make quick decisions and take full charge
- Communicate to ECC where it can coordinate activities among groups
- Ensure appropriate local and national govt. authorities are notified
- Prepare media statements, and release with CIC's approval
- Ensure response to oil pollution is in line with entity procedures
- Coordinate business continuity or recovery plan from the incident
- Coordinate any specialist support
- Decide on seeking assistance of MoU members and external agencies



### Local Action Group

- Planning Coordinator
- Operations and Technical Coordinator
- Logistics and Administration Coordinator
- Response Team Leaders (five per State)



### Local Action Group Support Team

- Environmental Advisers
- Finance & Administration Officer
- Wildlife Officer
- Equipment Operator
  - Offshore Containment/ Recovery
  - Inshore Containment/ Recovery
  - Engine driver and Laskar
  - Vessel-based dispersant spraying
  - Shoreline Assessment
  - Shoreline Cleanup



### Environment Group

- Comprehensive advice to all response units
- Advise on environmental aspects and public health impacts
- Advise on impacts of response, both real and potential
- Represent all environmental and public health interest considered at risk
- Encourage collection of baseline data of vulnerable environmental features immediately before impact of the pollution plume
- Track success of preventive and counter pollution measures
- Begin to assess overall long term environment impact
- Begin to monitor and assess the impact in the longer term if shoreline is likely to be impacted



### Specialist Advice and Assistance

- National Biodiversity Authority
- Central Marine Fisheries Research Institute
- Bombay Natural History Society
- Mangrove Society of India
- Reef Watch Marine Conservation
- MS Swaminathan Research Foundation
- Wildlife Trust of India



### Facility Contingency Plan

- Requirement to hold a facility Contingency Plan
- List of plan holders by MoS, MoPNG, Maritime Board, State Govt.
- Revision, at least once every five years or, whenever significant change in any of the plan elements
- Updating, at least annually



### Place of Refuge

- Obligation under Salvage Convention, 1989
- Certain places identified in Committee Report of Chairman National Shipping Board
- Guidelines being developed



### Mock drills and Exercises

- By every port facility and oil installation
  - at least once every three months
- Area or regional level exercises
  - will be conducted at least once every six months
- National level pollution response exercises
  - will be conducted at least once a year
  - will involve mobilization of stakeholder resources



### Competency Standards

- **Level 1**
  - all responders, and supervisors appointed as on-site managers
  - certificate deemed to be valid for 5 years from date of issue
  - periodic training to maintain currency of certification
- **Level 2**
  - middle management personnel responsible for managing the operational response, e.g. CIC, SIC, IC, and environment and scientific coordinators, and Fire Brigade (Haz Mat) specialists



### Discovery and Notification

- Duty to Report
- Occasions for Report
- Contents of Report
- Supplementary Report
- Reporting Procedures
- Follow-up on Reports



### Initial Response

- Criteria for triggering regional or national response
- Initial actions
- Online Oil Spill Advisory
- Action after initiating a national or regional response
- Situation Reports
- Final Report



### Response

- **Salvage**
  - Access to the casualty
  - Role of the Coast Guard for offshore installations
  - Offshore Renewable Energy Installations
- **At Sea Response**
  - Marine Response Centre
  - Options for cleanup operation
  - Dispersant spraying
  - Introduction of fishing restrictions



## Response

- Harbour Response
  - Powers of Port Authorities
  - Roles of Harbour Master and Coast Guard
  - Command and Control Centre
  - Division of responsibility for cleanup
- Shoreline and On-shore Response
- Disposal of Recovered Oil



## HNS Response

- Monitoring
  - Gases in Air
  - Water Column
  - Surface Slicks
  - Sunken Spills
- Response Techniques
  - Gases and Evaporators
  - Floating Chemicals
  - Dissolved Chemicals
- HNS Inventory



## Plan Review

Plan will be kept under review by  
the Central Coordinating Authority



## Inventory Standards at Coastal States

### PALLETISED CONTENTS

Inflatable Boom 240m in 10m & 20m lengths  
 Boom ancillary pallet  
 Shore Sealing Boom 400m in 10m & 20m lengths  
 Minivac System  
 Multi Skimmer 10TPH and 20 TPH  
 Portable temporary Storage Devices x 8 nos.  
 Inflatable Shelters  
 Decontamination Station Equipment  
 Spate pumps x 3  
 Suitable Power pack  
 Discharge hose  
 Command pallet  
 (Walkie Talkie, Torch, Folding Table, Folding Chair  
 Map of the Area, etc)



## National Capabilities

AID TO RESPONSE	PROVISION BY
Capping device (rating ≥ 10,000 PSI, 3000m depth, possibility of offset installation)	MoPNG
Subsea oil spill dispersant system	
Large scale OSD stockpile	
Emergency towing vessels (bollard pull ≥ 200 tons) x two	MoS
Salvage vessel	
Hot Tapping Device	
High Volume Offshore Skimming System	MoD
Incineration Boom	
Aerial Dispersant Delivery System	
Ecological Sensitivity Index Map	MoEF
Oil Finger Printing Laboratory	DoST
Radar oil spill detection capability	MoD, MoPNG, MoS



Thank you





## **DISCUSSION AND DECISION ON ACTIONABLE POINTS OF PREVIOUS MEETINGS**

### **1. Tier-1 facilities at MbPT and JNPT**

MbPT to draft oil spill contingency plan and establish Tier-1 pollution response facilities at the earliest. RHQ (West) to monitor the progress.

#### **Deliberations**

The representative of Mumbai Port Trust intimated that a fresh tender had been floated on 04 Mar 14 for establishment of Tier-1 pollution response facilities for a period of five years. The tender is due on 27 May 14. DDG (Ops & CS) observed that the point had been pending for a very long time. JS (Ports) assured that response equipment would be provisioned in a time bound manner.

#### **Decision**

MbPT to progress drafting of oil spill contingency plan and establish Tier-1 pollution response facilities at the earliest. RHQ (West) to facilitate.

**Action by : MbPT**

---

### **2. Preparation of Local Contingency Plan**

Coastal States/Union Territories to progress Local Contingency Plan for early promulgation. Regional Commanders to monitor progress. Secretary NOS-DCP to review status in December 2013.

#### **Deliberations**

Director (FE) appraised the detailed status as received from the Coast Guard Regional Commanders.

**Gujarat Govt.** was deliberating the plan at various forums. The Principal Secretary, Ministry of Environment & Forests, Govt. of Gujarat was handed over the Model LCP on 07 Jun 2011. Progress is awaited.

**Daman Administration** requested CGHQ for advice on preparing the LCP on 31 Jul 2013. They were advised on 14 Aug 2013 to consult RHQ (North-West) and intimated availability of sample plan on CG website.

**Maharashtra LCP** is pending for approval of the state government.

**Goa LCP** is being actively progressed by the state government for an early preparation as per guidelines of NOS-DCP Circular. D (FE) added that Goa State Pollution Control Board were proactive and had not only trained its personnel in Level 1 and Level 2 courses but also participated in NATPOLREX exercise. They had also scheduled another training program by NIO Goa.

**Karnataka LCP** was vetted by CGHQ and returned on 17 Oct 2012. It is since held with the state government for incorporating corrections.

**Kerala LCP** was vetted twice by CGHQ and returned to RHQ (West) on 11 Sep 2012 and 03 May 2013. The plan received after making good the observations was returned to DHQ-4 by RHQ (West) on 04 Apr 14 for incorporation of amendments. It was presently pending with state government for incorporation of amendments.

**Lakshadweep LCP** was vetted and returned with observations to the Administration. RHQ (West) intimated that the UT Administration is being impressed upon for early resubmission.

**Tamil Nadu LCP** has been prepared by concerned state government authorities and submitted to Revenue Dept. for inclusion in the State Disaster Management Plan. RHQ (East) intimated that the plan is expected to be received for vetting by June 2014.

**Puducherry LCP** was vetted by the District Collector in March 2014. CSO (Ops), East intimated that the LCP had been received at RHQ (East) for vetting.

**Andhra Pradesh** has sought assistance of the National Institute of Oceanography, Goa for preparation of LCP in September 2012. The representative of the AP Pollution Control Board stated that there has been no progress by NIO. The DGICG was of the view that NIO should give priority for early fructification of LCP. The representative of NIO stated that drafting of the LCP would be taken up as a project and assured that the concerned colleague would respond in a week's time.

**Odisha LCP** was analysed and returned on 21 Aug 2013 for making good deficiencies. The Govt. of Odisha is being liaised for finalizing the plan.

**West Bengal LCP** as approved by the Dept. of Environment, Govt. of West Bengal was received at CGHQ on 21 Mar 14 and returned with observations on 28 Mar 14. The LCP is pending with the state government since 01 Apr 14.

**A&N LCP** was submitted by the A&N Administration, Pollution Control Committee (ANPCC) to RHQ (A&N) on 03 Nov 2011. It was vetted and returned with observations on 08 Dec 2011. ANPCC has thereafter intimated that the LCP will be finalized on receipt of inputs from Pollution Control Board and NIO Goa. There has been no further progress on the LCP.

Taking note of the status of the LCPs of the coastal states, the DGICG observed that a few issues were lingering on for a long time and required to be pursued vigorously. The DGICG urged that all stakeholders complete the LCPs in a time bound manner and assured that the ICG will take minimum time for vetting of the LCP.

### **Decision**

Coastal States to progress Local Contingency Plan for early promulgation. Regional Commanders to facilitate progress and also write a DO letter to urge progress, if necessary.

**Action by: All Coastal States/UTs**

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### **3. Sensitive areas along the Coast and High seas for use of Dispersants**

MoEF may issue Government notification on no-OSD use areas as decided in Committee of Secretaries meeting on 02 Dec 2011.

### **Deliberations**

D (FE) stated that a Technical Committee constituted to draft and finalize notification on "No Oil Spill Dispersant (OSD)-use Areas" held a meeting on 06 Nov 2012. The meeting had inter alia decided that information on the eco-sensitive areas all along the coast collected by the National Centre for Sustainable Coastal Management (NCSCM) may be provided to the MoEF for consideration by the Committee. D (FE) added that the Addl Director MoEF had intimated in the 18<sup>th</sup> NOS-DCP meeting that report of the NCSCM is due only in Mar/Dec 2015. Dr. Kankara from ICMAM PD intimated that it may take 2-3 years for mapping of sensitive area. The DGICG suggested that the mapping may be expedited by MoEF since the data is critical to deciding response priorities and deploying response resources.

### **Decision**

CGHQ may pursue the case with the MoEF. **Point to be deleted.**

#### 4. **Oil Finger Printing Laboratory**

DoST may pursue establishment of oil fingerprinting capabilities as directed by the Committee of Secretaries meeting on 02 Dec 2011.

##### **Deliberations**

The representative of NIO Goa intimated that DoST contracted the job to NIO at a cost of approximately Rs 3.77 lakhs. Equipment had been ordered and would be installed in two to three months time, and the laboratory would be established by September 2014. DGICG suggested that representatives of ICG and DoST may jointly visit the laboratory when established. The representative of NIO welcomed the proposal of the DGICG.

##### **Decision**

Representatives of ICG and DoST may jointly review the oil fingerprinting laboratory at NIO Goa by December 2014. **Point to be deleted.**

---

#### 5. **Radar Oil Spill Detection Capabilities**

Coast Guard to issue circular for installation of oil spill detection software in VTS, VTMS, VATMS, OSVs of oil agencies. Ports and Oil agencies to establish radar oil spill detection capabilities. MoS and MoPNG to monitor progress.

##### **Deliberations**

D (FE) intimated that Chairman NOS-DCP Circular requiring establishment of radar oil spill detection capabilities at ports and oil installations, and OSVs was issued on 19 Jun 2013. D (FE) further added that Chennai Port VTS had installed Radar Oil spill detection facility capable of detecting oil up to 2 nautical miles.

The representative of Karaikal Port intimated that their existing 4 kW radar was not compatible for installing oil spill detection software patch. The representative further added that 25 kW radar would cost around Rs 80 lac and even the software patch for existing radars cost Rs 25 lac as royalty charges.

The DDG (Ops & CS) suggested that the cost of installing oil spill detection capabilities as an aid to early detection was negligible in comparison to the costs of cleanup, particularly if detection was delayed.

ONGC intimated that since trials on their OSVs had yielded ranges of only about two kilometers they were now examining satellite based surveillance system. DGICG observed that costs of satellite surveillance were prohibitive and radar oil spill detection capabilities were cost effective regardless of detection ranges.

The representative of Mundra Port suggested that since they received a line feed from the VTMS established in the Gulf of Khambat, the VTMS radars may be equipped with oil spill detection capabilities.

JS (Ports) assured that suitable directives will be issued requiring all major ports to be equipped with radar oil spill detection capabilities and that MoS will approach DGLL for installing oil spill detection capabilities in the Gulf of Khambat VTMS radars.

The DGICG observed that the technical issues would be required to be studied in greater depth and that details of capabilities installed at Chennai Port would serve as a useful reference. The DGICG further stated that apart from major ports, minor ports were also expected to install oil spill detection capabilities in their radars in a progressive manner.

### **Decision**

CGHQ to seek details of Chennai Port radar oil spill detection system and disseminate to all concerned stakeholders.

MoS will issue suitable directives requiring all major ports to be equipped with radar oil spill detection capabilities in a time bound manner.

MoS will issue suitable directives requiring DGLL to install oil spill detection capabilities in the Gulf of Khambat VTMS radars.

Ports and Oil agencies to establish oil spill detection capabilities. MoS and MoPNG to monitor progress.

**Action by: Ports/Oil Agencies/CGHQ**

### **6. Tier-1 Capabilities**

Ports and Oil Agencies to equip for Tier-1 oil spill response capabilities.

### **Deliberations**

Appraising of the status, D (FE) stated that there were inadequacies in the Tier-1 equipment of certain ports and oil agencies and that the inadequacies of equipment at the port facilities had also been brought out by the Chairman National Shipping Board in his Committee Report in October 2013.

The DGICG urged that Tier-1 facility must be created in a specific time frame and all units must facilitate the case before any exigencies occur.

### **Decision**

Ports and Oil Agencies are to equip with Tier-1 oil spill response capabilities. **Point to be deleted.**

---

### **7. Promulgation of Optimum Response Time**

Oil companies to submit risk analysis to CGHQ by 30 Jun 2013. OISD to convene meeting in July 2013 for finalization of response times.

### **Deliberations**

D (FE) stated that a meeting was convened by OISD on 03 July 2012. As per the meeting decision, all oil companies were to submit Risk Analysis report to the Coast Guard including worst case scenario, time for slick to reach the shoreline, and time required to mobilize OSR Tier-1 facility and reach the farthest possible oil spill in their area of operation.

ONGC in its action taken report had indicated submission of risk analysis reports in respect of its western and eastern offshore assets to OISD.

DDG (Ops & CS) stated that it needs no reiteration that if Tier-1 response equipment is held, unless it is suitably located, it will not facilitate immediate response.

### **Decision**

Oil handling agencies are to suitably position resources at oil installations so as to ensure spill response within the time limits specified for Tier-1 facilities. OISD is to issue suitable directives.

**Action by: OISD/Oil agencies**

## **8. Requirement of identifying Private OSRO**

MoEF and DG Shipping/ MoS may offer comments on the draft approach paper expeditiously to enable finalisation of the approach paper.

### **Deliberations**

Briefing on the background, D(FE) stated that a concept paper was drafted by ICG in February 2012 and circulated by the Ministry of Defence to all stakeholders in March 2012. As of date comments have been received from all agencies except Ministry of Shipping. JS (Ports) informed that comments of MoS would be intimated shortly. D (FE) added that once received, amended paper will be submitted for consideration of Committee of Secretaries through the MoD.

### **Decision**

D(FE) to consolidate comments and submit to MoD. **Point to be deleted.**

---

## **9. Bunker information in PANS**

DG Shipping is to examine the case for inclusion of bunker information in PANS at the earliest.

### **Deliberations**

Appraising of the background, D (FE) stated that a case for inclusion of bunker information in PANS by way of amendment to N.T. Branch Circular No. NT/ISPS/Ports/13/2005 dated 21 Nov 2005 was taken up with DG Shipping in September 2012. In November 2012, DG Shipping requested ICG to examine as to whether inclusion of Bunker Information in PANS is an international best practice and also sought list of countries following such a practice. The query was promptly replied and followed up with DG Shipping.

D (FE) further stated that after active persuasion by CGHQ, DG Shipping had advised a separate meeting with IPA to understand the existing availability of information under the port net community system, so as to avoid duplication of information being sought from ship/agent. Two meetings were held with the IPA. The codes have been received from IPA and are being examined by the IT Directorate at CGHQ.

### **Decision**

D (FE) to progress the case. **Point to be deleted.**

#### 10. **Programme for Joint Inspections**

Joint inspections of ports and oil agencies may be conducted as per an annual schedule. Schedule for FY 2013-14 may be worked out by D (FE)/CGHQ in consultation with MoS/OISD.

#### **Deliberations**

D (FE) stated that a calendar was drawn up in consultation with MoS and OISD for joint inspection of five ports and six OHAs. Joint inspection was conducted in respect of four ports, viz., Vishakapatnam (13 Aug 2013), JNPT/ MbPT (19/20 Aug 2013), and Kochi (22 Nov 2013) and two OHAs, viz., Kochi Port SPM (09 Aug 2013) and HPCL Vizag SPM (08 Jan 14). Amongst the scheduled inspections, joint inspection of Kandla port and OHAs in the GoK did not materialize

RHQ (East) and Maharashtra Maritime Board proposed that periodic joint inspections may also be instituted for non major ports. D (FE) suggested that a separate methodology would be required to be worked out since the non-major ports are administered by the state governments unlike the major ports which are administered by the Central government.

#### **Decision**

The system of annual joint inspections of major ports and oil agencies may be continued. D(FE) to schedule these inspections in consultation with MoS/ OISD. D(FE) to work out the modalities of joint inspections of non-major ports and issue policy letter. **Point to be deleted.**

---

#### 11. **Operation of vessels beyond SEZ**

CGHQ to seek inputs from RHQ(North-West) on SEZ regulations that prevent usage of tugs outside the SEZ for oil spill response operations and take up the matter with Ministry.

#### **Deliberations**

D (FE) stated that inputs on SEZ regulations were received from RHQ (North-West) on 28 Mar 14 and matter has been taken up with the Ministry of Finance on 25 Apr 14 for exemption of vessels operating in SEZ under rule 34 of SEZ Rules in case vessels required by Coast Guard as per the NOS-DCP to respond to oil spill emergency, or participate in a scheduled oil spill response exercise.

DDG (Ops & CS) added that regardless, it would be responsibility of the ports to obtain necessary clearances under the existing rules for their vessels and craft to be deployed as required by the Coast Guard for oil spill response.



The representative of Adani Port and SEZ intimated that crew competence and insurance would be additional issues. The crew appointed to the tugs is harbour qualified only. The insurance of the craft would be null and void if the craft were to be deployed beyond the SEZ limits. D (FE) responded that ICG will process the case with DG Shipping for exemption of crew competence and suggested that Adani Ports may forward the insurance documents to the Coast Guard for examination of clauses.

### **Decision**

D (FE) to pursue case for exemption of crew competence requirements with DG Shipping.

RHQ (North-West) to obtain insurance documents of port tugs from M/s Adani Ports and forward to CGHQ. D(FE) to examine clauses.

**Action by: Adani Port and SEZ/RHQ (North-West)/CGHQ**

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### **12. OPRC Amendments to MS Act, 1958**

DG Shipping may progress case for early incorporation of OPRC amendments to MS Act, 1958.

### **Deliberations**

D (FE) intimated that both OPRC and OPRC-HNS amendments to MS Act are linked. MoS had been intimated of amenability of Coast Guard to assume responsibility for HNS. A Committee has been constituted under Jt DG Shipping with D(FE) as member to address concerns of the Coast Guard regarding capacity and capability for HNS response. Draft Note for Cabinet is expected to be prepared accordingly by the DG Shipping.

### **Decision**

DG Shipping may progress case for early incorporation of OPRC amendments to MS Act, 1958.

**Point to be deleted.**

## **DISCUSSION AND DECISION ON NEW AGENDA POINTS**

### **1. Dedicated Oil Spill Response Officer**

CSO (Ops), Coast Guard Region (East) suggested that the ports and other agencies dealing with oil should have a dedicated Oil Spill Response Officer (OSRO) with adequate experience and training in the field. He added that presently, in most of the cases, the oil spill response duties are shouldered by individuals as a secondary duty. As a result, the oil spill response preventive activities/ training do not get due attention. He further proposed that certain qualifications be made mandatory for appointment of oil spill response officer so that only trained staff handles contingencies.

### **Deliberations**

D (FE) responded that the need for a dedicated Oil Spill Response officer (OSRO) is addressed by the revised draft NOS-DCP. A Chief Incident Controller and other members are required to be designated by each facility, and names and contact details of such designated persons intimated to all concerned authorities.

COMCG (East) added that there needs to be adequate backup i.e., adequate trained manpower must be identified in the contingency plan; particularly in major ports handling large oil tankers.

D (FE) intimated that the incident management team as defined in the revised draft NOS-DCP caters to all types of ports to deal with all levels of contingencies.

### **Decision**

Issue is addressed in the revised draft NOS-DCP. **Point to be deleted.**

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### **2. Pooling of Tier-1 equipment**

The representative of Karaikal Port proposed that since they are in very close proximity of Chemplast Sanmar and Chennai Petroleum Corporation and also have an MoU with these agencies to combat any oil spill incident, the mutually shared equipment may be considered as fulfilling Tier-1 inventory instead of each terminal owning individual set of equipment. He added that such a provision will reduce financial burden since the cost of procurement of additional Tier-1 equipment as per new guidelines would run into crores of rupees.

### **Deliberations**

DDG (Ops & CS) stated that pooling of resources is intended to meet requirement of responding to larger spills and not fulfill basic Tier-1 requirement.

The representative of MARG Karaikal Port added that the terminals are less than two kilometers apart.

CSO (Ops), East stated that Karaikal Port had commenced receiving large oil tankers thus compounding the risk. The representative of Tamil Nadu Pollution Control Board stated that they required compliance with Tier-1 inventory guidelines promulgated by the Coast Guard.

The DGICG observed that there would be no end to dilution of the guidelines and that the MoU for mutual aid will assist in responding to larger spills and not serve to fulfill the minimum requirement at individual ports and terminals.

### **Decision**

Each port is to maintain Tier-1 capability as per their categorization. **Point to be deleted.**

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### **3. Oil Spill Response Hub**

The Maharashtra Maritime Board proposed that equipment for oil spill response is expensive and a minor port may not be able to meet the inventory carrying cost or have dedicated personnel for maintenance and deployment of these equipment. Many ports have not purchased or have delayed purchase of oil spill response equipment due to same reason. The Board recommended that private OSRO may be developed who can invest in equipment and personnel to provide professional services during oil spill in a dedicated area (within 100km) in a given time frame.

### **Deliberations**

DGCIG observed that this point is similar to the earlier point by MARG Karaikal. The DGICG added that a hub of resources is intended to meet requirement of responding to larger spills and not fulfill basic Tier-1 requirement.

### **Decision**

Each port is to maintain Tier-1 capability as per their categorization. **Point to be deleted.**

#### 4. Creation of Tier-2 or Tier-3 OSRO within the Country

The representative of ONGC proposed that the Coast Guard may initiate discussions jointly with OISD and oil handling agencies for creation of either co-operative (as being operated in other countries) or an oil spill association (which also functions in some countries). The co-operative or association could be a joint venture too. The representative added that M/s OSRL charged Rs 70 lakh as membership fees and had recently increased the subscription fees by nearly three times.

#### Deliberations

The DGICG stated that OSRO approach paper has been drafted. Comments had been received from all agencies except MoS. ICG will pursue the case with MoD once comments were received from MoS. JS (Ports) once again assured that comments of MoS would be forwarded shortly.

D (FE) suggested that in US, Canada, Australia, Japan, Korea, etc it was the oil majors who had taken a lead in setting up Tier-2 and Tier-3 inventories and there was no precedence of governments establishing large scale inventories.

DDG (Ops & CS) added that, like many other countries, such a cooperative would be best established if ONGC or any major oil company would lead the oil industry in its setting up.

#### Decision

OSRO paper is being progressed by the Coast Guard. **Point to be deleted.**

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#### 5. Coast Guard Center of Excellence

The representative of ONGC proposed that capacity may be built for assessing perceived oil spill risk either through creating centre of excellence within Coast Guard or entering MoU with specialized organization like INCOIS and ICMAM-PD.

#### Deliberations

The DGICG agreed that oil spill response is a multi-disciplinary subject and required pooling of expertise for effective preparedness planning and response. The DGICG noted that the ICG had a catalytic role in the subject. As regards the setting up a centre of excellence, there were two aspects viz., hardware and knowledge. The hardware would have to be established as per the contingency planning requirements. The knowledge part would be addressed by the Coast Guard Academy which was coming up in Kerala wherein the School of Pollution Response would be

developed as a center of excellence. The school is envisaged to conduct courses up to post graduate level in marine environment protection for Coast Guard and other agencies. It could also offer regular training courses to the ports and oil handling agencies.

### **Decision**

The Coast Guard Academy once in place will serve as Centre of Excellence. In the interim the Committees provided for in the revised NOS-DCP will facilitate provision of expert advice.  
**Point to be deleted.**

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### **6. Subsea Well Intervention System and Subsea OSD System**

D (FE) brought out that the Gulf of Mexico oil spill and also the gas leak in KG Basin have proved that subsea well intervention system and subsea OSD system would be critical in efficiently responding to an underwater spill source from an oil installation. He added that there is a need to identify the source, system, and procedure for mobilizing these subsea systems and specify these in both, the facility plan and the NOS-DCP. D(FE) further stated that these capabilities are now reflected as national capabilities in the revised draft NOS-DCP.

### **Deliberations**

ONGC intimated that blow outs are of different nature and that the capping stack has to be designed as per blow out/ accident. Besides, M/s OSRL who have positioned such systems at Singapore, UK, US and Brazil post Macondo spill are only offering the equipment while the oil company demanding the equipment will have to separately arrange for the capping services. The representative of DGH intimated that the rules cater for adequate safeguards and require that preparedness be maintained to mitigate all risks. DGH further added that OISD is mandated to ensure compliance of safety standards at the offshore installations. It was agreed that ONGC will forward a detailed report for consideration at CGHQ and a meeting will thereafter be held with participation of DGH, OISD and oil agencies.

### **Decision**

ONGC to forward a detailed report on subsea well intervention systems and subsea dispersant application systems for offshore installations in Indian waters. D (FE) to examine report and convene a meeting of all concerned to discuss modalities for its incorporation in the facility contingency plan.

**Action by: ONGC/CGHQ**

## 7. **Shoreline Response Trailer**

D (FE) proposed that as part of preparedness for attending to oil pollution damage to its shoreline, it is preferable that every coastal State maintains a standard shoreline response inventory which is mounted, ready for use, on a trailer. In the event of a larger spill, trailers from other coastal States can be rapidly mobilized to the impacted site. D (FE) added that the shoreline inventory is now reflected under national capabilities in the revised draft NOS-DCP.

### **Deliberations**

The representatives of State pollution control boards welcomed the proposal. COMCG (West) stated that such inventory is envisaged under the Local Contingency Plan and requires to be established by all Coastal States. COMCG (West) added that the need was already demonstrated by the m.v. MSC Chitra oil spill.

### **Decision**

Coastal States may initiate steps to establish shoreline response inventory mounted on a trailer for ease of mobilization. Coast Guard Regional Commanders may facilitate the process and also write a DO letter to apprise the appropriate authority in the Coastal State/ Union Territory.

**Action by: Coastal States/UTs/COMCGs**

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## 8. **Streamlining Procedure for Approval of OSD**

D (FE) brought out that presently, the National Institute of Oceanography tests the intended brands of oil spill dispersants and approves their use in Indian waters. The validity of the approval for any brand is five years from the date of issue. Unless there is a change in the composition of the approved product, there should be no need to seek fresh testing of the same product. D (FE) added that facilities may however note that individual holdings of OSD would continue to be required to be tested at the end of the expiry period.

### **Deliberations**

The representative of NIO promptly concurred with the proposal of D (FE).

### **Decision**

D (FE) may maintain publish list of approved dispersants accordingly. **Point to be deleted.**

**CONCLUDING ADDRESS BY THE DGICG AT THE 19<sup>TH</sup> NOS-DCP AND  
PREPAREDNESS MEETING AT CHENNAI ON 12 MAY 2014**

Good Afternoon Ladies and Gentlemen,

1. We have come to the concluding part of the 19<sup>th</sup> NOS-DCP and Preparedness meeting after a fruitful discussion of the agenda points. I am happy to see the active participation of all the agencies during this NOS-DCP meeting. Surely, you all will agree that sincere efforts are being taken by various agencies in their respective entities to enhance their response preparedness. Evidently, the aim of the annual NOS-DCP meeting is being achieved to a large extent, however, more needs to be done.
2. Many valuable suggestions have come forth to further enhance our oil spill response preparedness. As the Central Coordinating Agency for combating major incidents of oil pollution in Indian waters, the Coast Guard strives to continuously enhance its pollution response preparedness at all levels. The release of the new draft national oil spill disaster contingency plan is one such initiative. Indeed, it is the first revision of the NOS-DCP since it was first promulgated in 1996.
3. The risk of oil pollution is only set to increase with newer ports and SPMs, increased port calls by ships at existing ports and ageing of oil pipelines. The incidents at Mahul creek and Uran have underscored our vulnerabilities and the imperative of enhanced vigil through constant monitoring and adequate preventive measures. Hence, the online oil spill advisory developed by the INCOIS is timely and pertinent and I commend the INCOIS for their good work.
4. It is my strong belief that we stand to gain and enrich our collective knowledge and experiences through our continuing engagements in the form of meetings, joint exercises and other forums to emerge better prepared to tackle any issues relating to oil pollution response.

5. Before I conclude, I would earnestly request all the concerned agencies to expedite issues that are long pending and seek all necessary assistance from the Coast Guard where necessary. I will particularly request that comments on the draft revised NOS-DCP may be forwarded in a time bound manner so that the revised NOS-DCP may be implemented without delay.

6. Finally, I would like thank the Commander, Coast Guard Region (East) and his team for the excellent arrangements for the smooth conduct of this meeting. I would also like to thank all the members who attended the meeting today and contributed to the debates and discussions with fervent enthusiasm.

7. Last, but not the least, I would request all the agencies to prepare adequately for the forthcoming monsoon season to respond to any eventuality of marine oil spill.

Thank you and Jai Hind.





**Annexure 'J'**  
(Refers to para 11)

**ACTIONABLE POINTS OF 19<sup>th</sup> NOS-DCP AND PREPAREDNESS MEETING**

1. MbPT to progress drafting of oil spill contingency plan and establish Tier-1 pollution response facilities at the earliest. RHQ (West) to facilitate.

***MbPT***

2. Coastal States to progress Local Contingency Plan for early promulgation. Regional Commanders to facilitate progress and also write a DO letter to urge progress, if necessary.

***All Coastal states/UTs***

3. CGHQ to seek details of Chennai Port radar oil spill detection system and disseminate to all concerned stakeholders. MoS will issue suitable directives requiring all major ports to be equipped with radar oil spill detection capabilities in a time bound manner. MoS will also issue suitable directives requiring DGLL to install oil spill detection capabilities in the Gulf of Khambat VTMS radars. Ports and oil agencies to establish oil spill detection capabilities. MoS and MoPNG to monitor progress.

***Ports/Oil Agencies/CGHQ***

4. Oil handling agencies are to suitably position resources at oil installations so as to ensure spill response within the time limits specified for Tier-1 facilities. OISD is to issue suitable directives.

***OISD/Oil agencies***

5. D(FE) to pursue case with DG Shipping for exemption of crew competence requirements if harbour crafts are deployed beyond SEZ for oil spill response. RHQ (North-West) to obtain insurance documents of port tugs from M/s Adani Ports and forward to CGHQ. D(FE) to examine clauses.

***Adani Port and SEZ/RHQ (North-West)/CGHQ***

6. ONGC to forward a detailed report on subsea well intervention systems and subsea dispersant application systems for offshore installations in Indian waters. D (FE) to examine report and convene a meeting of all concerned to discuss modalities for its incorporation in the facility contingency plan.

***ONGC/CGHQ***

7. Coastal States may initiate steps to establish shoreline response inventory mounted on a trailer for ease of mobilization. Coast Guard Regional Commanders may facilitate the process and also write a DO letter to apprise the appropriate authority in the Coastal State.

***All Coastal States/COMCGs***

**Annexure 'K'**  
(Refers to para 11)

**PROGRAMME**  
**19<sup>th</sup> NATIONAL OIL SPILL DISASTER CONTINGENCY PLAN**  
**(NOS-DCP) & PREPAREDNESS MEETING**

**Date : 12 May 2014**

**Venue : Hotel GRT Grand, 120, Sir Thyagaraya Road, T Nagar, Chennai**

<b>TIME</b>	<b>EVENT</b>
0900	Delegates Arrive & Registration
0930	Chairman Arrives. Received by COMCG(East)
0933	Inaugural Address by the Chairman, NOS-DCP
0940	NOS-DCP overview by Commandant (JG) Amit Uniyal, Deputy Director(FE)
0955	“Sensitivity Mapping” presentation by Dr RS Kankara, Scientist F, ICMAM-PD
1010	“Online Oil Spill Advisory” presentation by Dr. Balakrishnan Nair, Head-ISG, INCOIS
1015	“Introduction to Revised NOS-DCP” by DIG AA Hebbar, Director (FE)
1030	Tea Break
1045	Review of Actionable Agenda of Previous Meetings
1145	Discussion on New Agenda Points
1245	Closing Address by DGICG
	Lunch

**Rig : 8As for Service Officers**

**Annexure 'L'**

(Refers to para 11)

**19<sup>th</sup> NATIONAL OIL SPILL DISASTER CONTINGENCY PLAN (NOS-DCP)**  
**AND PREPAREDNESS MEETING - 12 MAY 14**

**LIST OF PARTICIPANTS**

1.	Vice Admiral Anurag G Thapliyal, AVSM & Bar Director General Indian Coast Guard	8.	DIG AKS Chauhan, TM Chief Law Officer Indian Coast Guard
2.	IG SPS Basra, YSM, PTM, TM COMCG(West) Indian Coast Guard	9.	DIG AP Badola CSO(Ops)/RHQ(East) Indian Coast Guard
3.	IG SP Sharma, PTM, TM COMCG(East) Indian Coast Guard	10.	DIG AA Hebbar, TM Director (Environment) Indian Coast Guard
4.	IG VSR Murthy, PTM, TM COMCG(North-East) Indian Coast Guard	11.	DIG SS Dasila CSO(Ops)/RHQ(North-West) Indian Coast Guard
5.	IG K Natarajan, PTM, TM COMCG(A&N) Indian Coast Guard	12.	Comdt SK Singh Oi/c PRT(East) Indian Coast Guard
6.	IG KR Nautiyal, PTM, TM DDG(Ops & CS) Indian Coast Guard	13.	Comdt R Nath, TM CSO(Ops)/RHQ(North-East) Indian Coast Guard
7.	IG KS Sheoran, TM COMCG(North-West) Indian Coast Guard	14.	Comdt JBS Virk CSO (R&T)/RHQ(West) Indian Coast Guard

15.	Comdt VK Vijay Kumar Regional FE Officer/RHQ(East) Indian Coast Guard	24.	Mr. SJ Prasad Project Scientist-B Indian National Centre for Ocean Information Services
16.	Comdt HS Serawat CGA to DGICG Indian Coast Guard	25.	Cmde Rajiv Mehta CSO & PD(Ops) FODAG
17.	Comdt P Shyam Kumar Oi/C PRT(A&N) Indian Coast Guard	26.	Lt Cdr S Rajkumar Rep from PD(NO) Naval Officer In-charge Tamil Nadu/Navy
18.	Comdt(JG) Amit Uniyal Dy Director (FE) Indian Coast Guard	27.	Lt Cdr Abhishek Rep from PD(NO) Naval Officer In-charge Tamil Nadu/Navy
19.	Mr. N Muruganandam Joint Secretary(Ports) Ministry of Shipping	28.	Dr. Vethamony Chief Scientist National Institute of Oceanography
20.	Mr. Irfan Ahmad Khan Assistant Director(DM) Ministry of Home Affairs/ Disaster Management Division -1	29.	Mr. Kishor Kumar Darad Head Environment Directorate General of Hydrocarbons
21.	Ms Aparna Ganesan Under Secretary Ministry of External Affairs	30.	Mr. Sudhir Kumar Chief Engineer (Production) Directorate General of Hydrocarbons
22.	Dr. RS Kankara Scientist-F Integrated Coastal and Marine Area Management – Project Directorate	31.	Mr. Dharendra Singh Sindhu Joint Advisor National Disaster Management Authority
23.	Dr. Balakrishnan Nair Head ISG Indian National Centre for Ocean Information Services	32.	Mr. SP Selvan DIG South Zone, Chennai National Disaster Relief Force

33.	Asst Comdt WN Sandrew 4th Battalion, Arakkonam National Disaster Relief Force	43.	Mr. Jayant P Raval Asst Manager(Safety) Jawaharlal Nehru Port Trust
34.	Capt CM Srivastava Senior Vice President(ISM & ISPS) Shipping Corporation of India	44.	Capt Pankaj Nirmal DGM Marine JSW Jaigarh Port Ltd
35.	Mr. Umesh Grover Chief Executive Officer Indian National Shipowners Association	45.	Mr. Shekar Pollution Control Officer New Mangalore Port Trust
36.	Mr Jayakumar TC Ethiraju Joint Chief Environmental Engineer Tamil Nadu Pollution Control Board	46.	Capt Shaji Abraham Manager Marine Pollution Control Cochin Port Trust
37.	Mr. DM Thaker Environment Engineer Gujarat Pollution Control Board	47.	Capt PT Sadanandan Harbour Master Chennai Port Trust
38.	Comdt(JG) Arun Saxena Chief Ports Officer Maharashtra Maritime Board	48.	Mr. M Vijayan AM(Safety) Kamarajar Port Ltd
39.	Capt M Anbarasan State Port Officer(A/c) Tamil Nadu Maritime Board	49.	Capt US Behara Pilot VO Chidambaram Port Trust
40.	Capt T Srinivas Harbour Master Kandla Port Trust	50.	Capt V Ramprasad Harbour Master Vishahkapatnam Port Trust
41.	Capt Anubhav Jain DGM – Marine Services Adani Ports and SEZ	51.	Mr. KV Rao Joint Chief Env Engg AP Pollution Control Board
42.	Capt Anand W Karkare Sr. Dock Master Mumbai Port Trust	52.	Capt N Viswanathan General Manager(Marine) L&T Kattupalli Port

53.	Mr. KD Gopinathan Sr. Manager(Marine Operations) MARG Karaikal Port Pvt Ltd	63.	Mr. VK Thakral GM-Head Safety Oil and Natural Gas Corporation Ltd
54.	Capt Pradeep Kant Gaur President(Marine) Krishnapatnam Port Company Ltd	64.	Mr. Pradip KR Chakrabarti Civ Mechanical Oil and Natural Gas Corporation Ltd
55.	Dr. SS Kashyap GM-Head Environment Oil and Natural Gas Corporation Ltd	65.	Mr. KS Rao DGM(Operations) Indian Oil Corporation Ltd
56.	Dr JS Sharma GM- Head Environment Oil and Natural Gas Corporation Ltd	66.	PK Bansal, General Manager(HSE) Indian Oil Corporation Ltd
57.	Mr. Harendra Singh DGM(Chem) Oil and Natural Gas Corporation Ltd	67.	Mr. VC Sati, General Manager, PHBPL Indian Oil Corporation Ltd
58.	Mr. Pawan Kumar General Manager(Mechanical) Oil and Natural Gas Corporation Ltd	68.	Mr. Nipan Doley Maintenance Manager, WRPL Indian Oil Corporation Ltd
59.	Mr. C Mathavan DGM(P) Oil and Natural Gas Corporation Ltd	69.	Mr. SK Chaudhuri Chief Terminal Manager Indian Oil Corporation Ltd
60.	Mr. R Gunasekharan DGM(Mechanical) Oil and Natural Gas Corporation Ltd	70.	Mr. P Ambalagan DGM(Chem) Indian Oil Corporation Ltd
61.	Mr. BP Babu DGM(Chem) Oil and Natural Gas Corporation Ltd	71.	Mr. D Sarveswara Rao Sr. Manager-Marine Hindustan Petroleum Corporation Ltd
62.	CDR (Retd.) RP Gupta Chief Manager Security Oil and Natural Gas Corporation Ltd	72.	Mr. M Kannan Vice President, HSEF Reliance Industries Ltd

73.	Cdr(Retd) NV Rao Head Shore Base(Operations) Reliance Industries Ltd, Kakinada	79.	Mr. MS Sudarsan DGM(Env) Mangalore Refinery & Petrochemicals Ltd
74.	Mr. Sanjay Kumar Mehta Asst Vice President (COT) Bharat Oman Refineries Ltd	80.	Mr. VM Ankalge Sr. Executive Finolex Industries Ltd
75.	Mr. S Viswanathan Joint Manager - Safety & Environment Chemplast Sanmar Ltd, Cuddalore	81.	Mr. S Gopal Sr. VP Operations PPN Power Generating Co. Pvt Ltd
76.	Mr. R Padmanabhan Sr. Manager - PR Chemplast Sanmar Ltd, Karaikkal	82.	Mr. Abhay Sharma Consultant - Offshore Security Cairn India Limited
77.	Mr. G Janakiraman HSE Manager Hindustan Oil Exploration Co. Ltd	83.	Mr. Vidiyala Ravi Sr Manager - HSE Cairn India Ltd
78.	Mr. Abhimanyu Biradar Sr. Head - Hazira Niko Resources Ltd	84.	Capt Banshiva Ladva Port Captain Vadinar Oil Terminal Ltd