

Copy No. :



INDIAN COAST GUARD

(DIRECTORATE OF FISHERIES AND ENVIRONMENT)

(MINISTRY OF DEFENCE)

PROCEEDINGS OF

17TH NOSDCP AND PREPAREDNESS MEETING 2012



INDIAN COAST GUARD
(DIRECTORATE OF FISHERIES AND ENVIRONMENT)
(MINISTRY OF DEFENCE)

PROCEEDINGS OF
17TH NOSDCP AND PREPAREDNESS MEETING 2012

1. The Seventeenth "National Oil Spill Disaster Contingency Plan (NOSDCP) and Preparedness" meeting was held at Gandhinagar on 12th Jun 2012.
2. The proceedings of the meeting are enclosed for information and necessary action.

Enclosure: Proceedings of the Meeting
EP/0720/17th Meeting
Date 04 Jul 12

(AA Hebbar)
Dy Inspector General
Director (F&E)

PROCEEDINGS OF THE SEVENTEENTH NATIONAL OIL SPILL DISASTER
CONTINGENCY PLAN (NOSDCP) AND PREPAREDNESS MEETING HELD
AT GANDHINAGAR ON 12 JUN 2012

Appendices :-

- A - Inaugural Address by the Chairman
- B - NOSDCP Overview
- C - Presentation on “Legislative Aspects of Oil Spill Response in India”
by Capt Deepak Kapoor, Nautical Surveyor-cum-DDG(Tech),
DG Shipping
- D - Presentation on “Surveillance Systems for Sensitive Areas”
by Dr. RS Kankara, Scientist E, ICMAM PD
- E - Discussions and decisions on previous agenda points
- F - Discussions and decisions on new agenda points
- G - Programme
- H - List of delegates

1. The Seventeenth National Oil Spill Disaster Contingency Plan (NOSDCP) and Preparedness meeting was held at Hotel Cambay, Gandhinagar on 12 Jun 2012. Vice Admiral MP Muralidharan AVSM, NM, Director General Indian Coast Guard, chaired the meeting. 59 delegates from various Government Departments, Ports and Oil Companies attended the meeting.

2. In his inaugural address, the Chairman welcomed all delegates to the 17th NOSDCP meeting, and reiterated the need for all agencies to be prepared to deal with oil spills during the monsoon. The Chairman brought out salient issues pertaining to oil spill response of MV Rak Carrier, which sank off Mumbai on 04 Aug 2011 and appreciated the action taken by

various agencies to respond to the oil spill. The Chairman also referring to the meeting of the Committee of Secretaries chaired by the Cabinet Secretary on 02 Dec 11, apprised that the Defence Secretary has been made as Chairman of the Crisis Management Group and the MoD has been given overall responsibility to coordinate among all stakeholders at the centre. The Chairman NOSDCP also announced that the next National Level Pollution Response Exercise (NATPOLREX) has been planned in the month of Dec 12 at Mumbai. The Chairman's inaugural address is placed at **Appendix 'A'**.

3. On completion of inaugural address the Chairman released the book “**National Plan Inventory of Marine Oil Spill Response Resources in India**” which was prepared by Indian Coast Guard that contains state wise pollution response inventory held with Coast Guard, Ports, Oil Handling Agencies and other stakeholders.

4. A presentation on an overview of NOSDCP activities was given by Deputy Inspector General AA Hebbar, TM, Director (FE), who brought out the specific details of oil spill incidents that occurred since the last NOSDCP. The D(FE) also highlighted the actions taken with regard to oil spill operations, conduct of PR training, conduct of joint audit of ports and oil handling agencies. A handout of the presentation on NOSDCP is placed at **Appendix 'B'**.

5. Capt Deepak Kapoor, Nautical Surveyor-cum-DDG(Tech), DG Shipping made a presentation on “**Legislative Aspects of Oil Spill Response in India.**” The presentation highlighted the impact of environmental laws on oil spill and status of legislation. A handout of the presentation is placed at **Appendix 'C'**.

6. Dr. RS Kankara, Scientist E, ICMAM PD made a presentation on “**Surveillance Systems for Sensitive Areas.**” The presentation called attention to the need an integrated surveillance system for sensitive areas. A handout of the presentation is placed at **Appendix 'D'**.

7. The other important issues discussed and deliberated upon during the NOSDCP meeting include tier-1 facilities at MbPT and JNPT, status of preparation of local contingency plan, surveillance system by ports against illegal discharge, area of responsibility for oil spill response, standardization of inventory for tier-1 and tier-2 capabilities and promulgation of optimum response time for responding to oil spills by offshore installation operator, requirement of identifying private OSROs, and cordoning-off tankers at berths/SPMs. The discussions and decisions on actionable

points of previous meetings and new agenda points are placed at **Appendix 'E'** and **Appendix 'F'** respectively.

8. In his concluding address the Chairman appreciated the ongoing efforts by all agencies and requested the members to take further necessary actions on points deliberated during the 17th NOSDCP meeting in a timely manner. In conclusion, the Chairman reiterated that cooperation and coordination amongst all stakeholders is vital to make the seas pollution free.

9. The programme of the meeting is placed at **Appendix 'G'**.

10. The list of delegates attended the meeting is placed at **Appendix 'H'**.

INAUGURAL ADDRESS BY THE DGICG

1. Officer's representing various ministries and department of the central and state government, Coast Guard Regional Commanders, members from major ports and oil handling agencies, and other distinguished delegates.
2. Good morning and a very warm welcome to the 17th NOSDCP and Preparedness meeting being held here at Gandhi Nagar.
3. As we are all aware, the objective of this meeting is to review our preparedness and response capabilities, with the common aim to prepare ourselves to respond to any oil spill contingency. 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 discussed during the last NOSDCP meeting held on 19 Apr 11 at Kochi.
4. In the past one year, the only major oil spill incident which occurred in Indian waters was from MV Rak Carrier, a 28 year old bulk carrier, which sank off Mumbai on 04 August 2011, with 60,000 ton of coal onboard, 290 ton of furnace fuel oil and 50 ton of diesel. The Search and Rescue operation, the Coast Guard in coordination with the Indian Navy, rescued all 30 crew from the sinking ship. Thereafter, Coast Guard ships and aircraft were deployed under operation '**Paryavaran Suraksha 02/2011**', to contain oil being spilled from the wreck. Most of the spill was responded by the Coast Guard at sea. A few isolated patches of oil which reached the shores were cleaned by the state authorities. The action taken by the various state agencies, volunteers, NGOs, etc to respond to the oil spill is praiseworthy.
5. The Indian Coast Guard, in April last year, had proposed a categorization of ports and oil handling agencies for scaling of pollution response equipment and manpower and requested all agencies for comments and recommendations. However, the response from the stakeholders has not been very encouraging. I request all the concerned agencies to revisit the Coast Guard proposal and chart the way forward for positive implementation.

6. I would also like to appraise this august gathering that the Govt. of India has initiated various measures to ensure that 'Oil Spill at Sea' is giving top priority by all the concerned agencies. In this regard, a meeting of the Committee of Secretaries was chaired by the Cabinet Secretary on 02 Dec 11, with senior officials from all the concerned ministries and departments in attendance.

7. It has been decided that the Defence Secretary will be the Chairman of the Crisis Management Committee in the event of an Oil Spill Disaster. The Committee was earlier chaired by the Home Secretary. Further, MoD has been given the overall responsibility to co-ordinate among all stakeholders at the centre on the implementation issues arising from NOSDCP.

8. The meeting also set course for introduction of private Oil Spill Response Organisations (OSROs) in India. ICG was directed to prepare an approach paper examining the issues underlying the proposal to mandate existence of pre-contractual arrangement by all ships entering Indian ports with OSROs. The draft approach paper has been prepared by ICG and circulated by Ministry of Defence to all concerned dept/stakeholders for comments. The approach paper with comments duly incorporated will be submitted for consideration by Committee of Secretaries.

9. The Coast Guard has prepared a catalogue of pollution response equipment, which contains the state wise pollution response inventory held with Coast Guard, ports, oil handling agencies and other stake holders. This compilation will be a useful reference to the stakeholders especially during the planning stage of any major oil spill response operation.

10. Validating oil spill response preparedness is an important part of our calendar of activities. The next National Level Pollution (NATPOLREX) exercise has been planned in the month of December 2012 at Mumbai. I am sure we will witness an overall improvement in the preparedness level of stakeholders. Here, I would like to announce that the second dedicated pollution response vessel, ICGS Samudra Paharedar is likely to join the Coast Guard fleet shortly and would also take part in the forthcoming NATPOLREX. With the induction of second dedicated Pollution Control Vessel, ICG will be enhancing its capabilities to respond to marine oil spills.

11. I am sure that all here would agree that regular training and exercises is an important factor for pollution response preparedness. Since the last NOSDCP meeting, the Coast Guard

has imparted IMO level I training to 120 personnel of various stakeholders. However, it is a matter of concern that, the IMO level II course, which is jointly conducted by Coast Guard and AMET University, Chennai, scheduled in Feb 12 had to be cancelled due to poor response from the stakeholders. I would request all stakeholders to collectively endeavour to train adequate number of personnel for managing pollution response.

12. While I dwell on management of oil spill response, I would like to state that the Indian Coast Guard is in the process of revising the 2006 edition of the NOSDCP. Publishing an updated inventory was indeed the first step. I request all stakeholders to forward their suggestions so that they can be incorporated in the revised NOSDCP.

13. I would like to reiterate that the aim for the conduct of the NOSDCP meeting is to review our preparedness to protect our marine environment from oil spills, which is only possible, if we all work together towards a common goal. I would like to extend my appreciation to all the agencies who have taken suitable actions on the decisions taken during the previous NOSDCP preparedness meetings. Last, but not the least, I would request all the agencies to prepare adequately for the forthcoming monsoon to respond to any eventuality of a marine oil spill.

Jai Hind.

NOSDCP OVERVIEW BY DIRECTOR (FE)


NOSDCP Overview

DIG AA Hebbar
Director Environment
Indian Coast Guard

Presentation at the 9th NOSDCP & Preparations Meeting, 12 Jan 2013, Hotel Conday, Gandhinagar

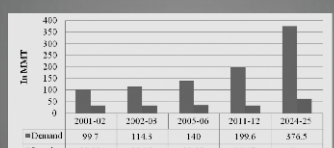
Scope

- Energy Overview
- Contingency Planning
- Planning of Resources
- Training
- Mock drills and Exercises
- Response to Incidents



India: Energy Overview

- 6th largest energy market
- Production 32-33 mmtpa
- Import 140.25 mmtpa west & 46.75 east coast
- GDP ↑ 8% = energy ↑ 5.2%



Year	Demand	Supply
2001-02	99.7	32.03
2002-03	111.3	34.05
2003-04	140	34.95
2011-12	199.6	34.45
2014-25	376.5	61.1


Contingency Planning

Plan Characteristic

Zero capacity or capability

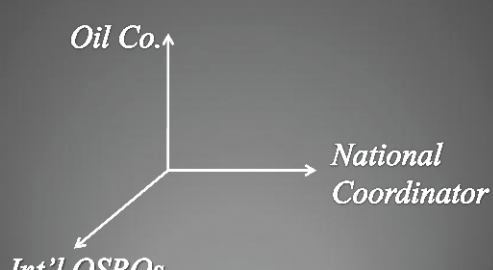
UNACCEPTABLE

UNACHIEVABLE
Prepared for all contingencies



Contingency Planning


3D Characteristic



National Contingency Plan

Overview

- Prepared in fulfilment of obligations under OPRC 1990
- Approved by Committee of Secretaries in 1993
- Delineates responsibilities of stakeholders
- Obliges commitment of resources for oil spill response
- Systemises national preparedness and response



National Contingency Plan

Amendment

Defence Secretary designated as
Chairman of Crisis Management Group
under the NOSDCP

Local Contingency Plans

- LCPs vetted by ICG Regional Headquarters':
 - Kerala, Karnataka, Maharashtra, Goa and Lakshadweep
 - Puducherry and Tamil Nadu
 - Andaman & Nicobar
- Follow-up by Secretary (Security), MHA

Facility Contingency Plans

Imperatives

- Periodic updating
- Diligence in drafting
- Beyond software output
- Impact assessment for all sizes of risk
- Environmental Sensitivity Index



BP – OSCP Omissions and Errors

582 page Regional Plan; 52 page site-specific plan

- Wildlife Expert listed in 2009 edition of plan had died in 2005
- Sensitive Biological Resources listed seals, sea otters, sea lions, walruses, etc. did not live anywhere near the Gulf.
- Beaches, where oil washed up, were supposed to be safe from contamination.

REPORT OF THE NATIONAL COMMISSION ON THE
BP DEEPWATER HORIZON OIL SPILL
AND OFFSHORE DRILLING

BP – National Commission Findings

- Failures '**systemic**' and likely to recur without industry and government REFORM
- Cut and paste plans
- Response Plans generic and not site specific

REPORT OF THE NATIONAL COMMISSION ON THE
BP DEEPWATER HORIZON OIL SPILL
AND OFFSHORE DRILLING

BP – Findings... in a nutshell

- Dangers understated
- Company preparedness overstated

REPORT OF THE NATIONAL COMMISSION ON THE
BP DEEPWATER HORIZON OIL SPILL
AND OFFSHORE DRILLING

BP – Recommendation

“Need to create a **rigorous, transparent, and meaningful** oil spill risk analysis and planning process for the development and implementation of better oil spill response”



Response Resources

- Second ICG PCV being commissioned shortly
- Procurement initiatives underway at CGHQ
- OSRO Concept Paper
- Memorandum of Understanding
- Stockpiles in proportion to assessed risk
- National Plan Inventory



Joint Inspections and Audits

- ICG/ DGH joint pollution response audit of ONGC vessel Sagar Bhushan in December 2011
- ICG/ MoS joint inspection of major ports on east coast in January/ February 2012
- Remaining audits and joint inspections being scheduled in coordination with MoS and DGH



IMO Level 1 Training

PLACE	COURSE DATE	STRENGTH
VADINAR	14-17 MAY 2011	26
	14-17 NOV 2011	20
	21-24 MAR 2012	17
CHENNAI	08-12 AUG 2011	13
	26-30 MAR 2012	16
PORT BLAIR	27 JUN – 01 JUL 11	08
	20-24 FEB 2012	06
MUMBAI	08-12 AUG 2011	13



IMO Level 2 Training

- By AMET University with ICG support
- 4th course 01-05 Aug 2011
- 22 participants from resource agencies
- 5th course canceled due poor response



Seminar and Mock Drills

- Seminar and Mock Drills conducted at Vadinar, Puducherry, Tuticorin, Chennai, Paradip and Haldia



Seminar and Mock Drills

- Seminar and Level 2 Exercise conducted at Chennai and Kakinada



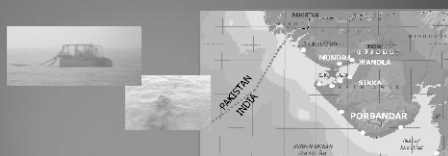
Mirach

- Sank on 12 April 2011
- 50 MT FFO escaped into sea
- Windrows over 8-10 n miles
- 80 MT salvaged by M/s SMIT

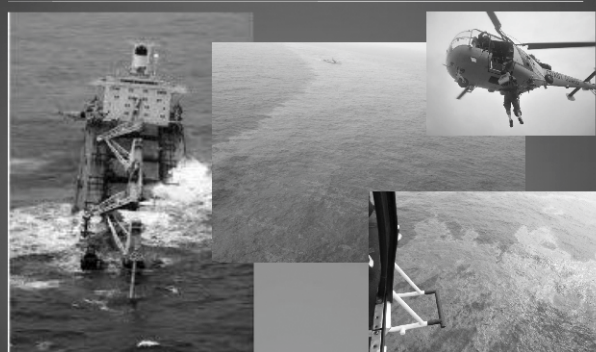


Mundra Port SPM

- 400-500 l spill on 18 Jul 11
- While replacing floating hose
- Spill neutralized by Port tugs
- Response monitored by ICG



Rak Carrier



Rak Carrier

- 28 year old Panamanian bulk carrier
- Sank off Mumbai on 04 Aug 2011
- Prompt rescue of all 30 crew by ICG/ IN
- 290 tons FFO and 50 tons diesel
- ICG oil spill response effort of 37 ship days and 22 aircraft hours over 17 days
- Isolated patches ashore attended by local authorities



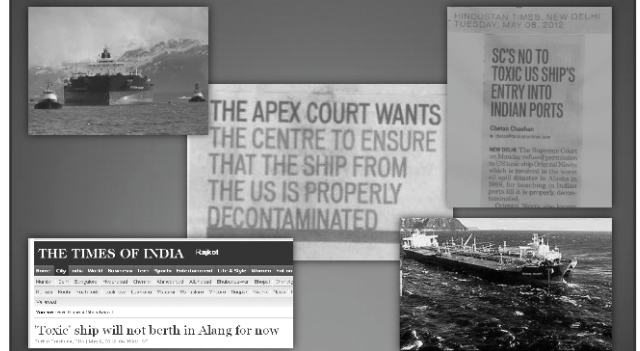
Al Hussaini



Al Hussaini

- Boat in police custody since April 2012
- Berthed in Mallet Bunder, Mumbai
- Sank on 26 May 2012
- 8 tons fuel oil leaked into basin waters
- Quick containment booming by ICG
- Oily water and sludge recovery of 5-6 tons by MbPT and 3 tons by ICG over 2 days

Oriental Nicety




Oriental Nicety




- Formerly Exxon Valdez
- Allegedly not cleared of toxic waste
- Prohibited from entering any Indian port
- Anchored off Mumbai since 10 May 2012
- Flagged Sierra Leone
- Potential threat from 148 MT IFO and 37.5 tons diesel onboard

Thank you

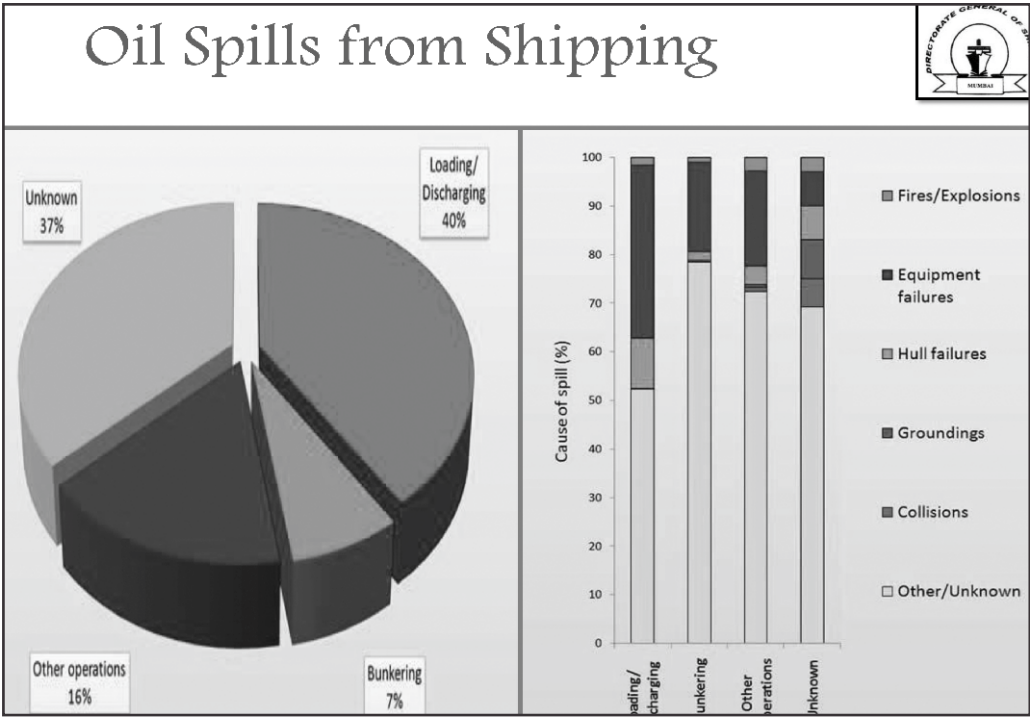
PRESENTATION BY CAPT DEEPAK KAPOOR, DG SHIPPING

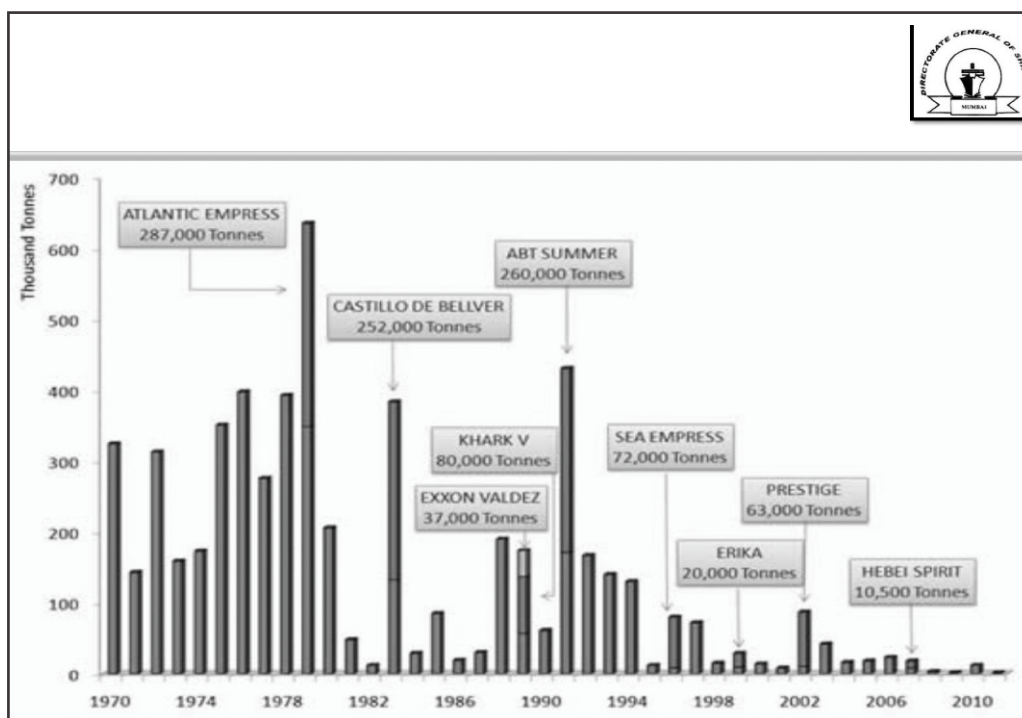


17TH NOS DCP 2012

Presented by
Directorate General of Shipping, Mumbai
12th June 2012

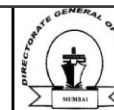




Key Oil Spills In Indian Waters

Name of ship / Type	Month/Year incident	Cargo Capacity /Port / Incident	Quantity . Spilled	Remarks
Ocean Seraya Bulk Carrier	June / 2006	Empty/ Within port	minor about 50-100 t	Valid certificates & P& I Cover
Asian Forest General Cargo	July / 2009	13,600 tons Iron Ore / Within 12 NM	Minor Pollution (total bunkers 400 t)	Valid certificates & P& I Cover
Black Rose Bulk Carrier	September / 2009	36,000 tons Iron Ore/ Within port	Minor pollution (total bunkers 940 t)	Valid certificates & Invalid P & I Cover
MSC Chitra Container Vessel	August / 2010	2314 Containers Within port	750 t (total bunkers 3000 t)	Valid certificates & P & I Cover
Mirach Bulk Carrier	March / 2011	25, 842 MT Iron Ore / Within 12 NM	Minor pollution (total bunkers 210 t)	Valid certificates & P & I Cover
Rak Carrier Bulk Carrier	August / 2011	60, 000 MT Coal / Beyond 12 NM	150 t (total bunkers 350t)	Valid certificates & P & I Cover

Impact Of Marine Environmental Laws On Oil Spills



5

Preventive -Safety laws

- ❑ SOLAS 1974
- ❑ Load line 1966
- ❑ COLREG 1972
- ❑ STCW 19787 as amended
- ❑ Classification Society Rules and IMO Soft Laws

Pollution -Preventive laws

- ❑ UNCLOS Article 192- 235, 236,237- Marine Environment.
- ❑ MARPOL 73-78 – Prevention for Pollution from ships operating in Marine Environment
 - Annex I to VI- Pollution by Oil/NLS/HS/Sewage/Garbage/Air

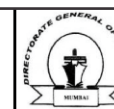
Pollution -Preparedness and Response Laws

- ❑ OPRC 1990
- ❑ Salvage Convention 1989.
- ❑ High Seas Intervention 1969

Polluter Principle - Liability & Compensation Laws

- ❑ LLMC 76/96,
- ❑ CLC92/FUND 92,
- ❑ Bunker 2001, &
- ❑ Wreck Removal 2007.

Key Observations



6

- ❑ Inadequacies in integration of Treaties with Domestic Laws and delay.
- ❑ Single Central Authority to deal with emergencies
- ❑ Lack of mechanism to verify effective safety standards by External authorities
- ❑ Inadequacy of emergency preparedness including places of refuge / services
- ❑ Lack of ship routing / reporting systems including Navigational Aids and Training.
- ❑ Poor enforcement for COLREG 1972 violation by ships
- ❑ Inadequacy of oil pollution response resource for Tier I
- ❑ Inadequate Funding to deal with contingencies
- ❑ Inadequate man power in the maritime administration
- ❑ Inadequate Capacity Building for salvage services

Status of Legislations (Safety)



7

MS (Regulation of Entry of Ships in port) Rules 2012.
 MS Notice 06 of 2012- Towing Process.
 MS Notice 14 of 2010 and 06 of 2011-FSI/General inspection.
 Draft MS Safety Construction Rules 2011.
 Draft MS FFA Rules 2011.
 Draft MS LSA Rules 2012.
 Draft MS DSRC Rules 2011.
 Draft MS Safety of Navigation Rules 2010.
 Draft MS Carriage of Cargo Rules 2010.
 Draft MS Prevention of Collision Rules 2010.
 Draft MS STCW Rules 2011.
 Draft MS Load Line Rules 2011.
 Laning and VTS in progress

Status of Legislations (Pollution)



8

Environmental Protection Act 1986 and Rules.
 Indian Ports Act 1908.
 Inland Vessel Act 1917.
 Legislation for Ground water not Uniform.
 Legislation for Oil Platform Facilities enforcement ineffective.
 Merchant Shipping Act 1958 – Part XI A- Prevention of Pollution.
 Merchant Shipping (Prevention of Pollution of the Sea by Oil) Rules 2010
 Merchant Shipping (Levy of Oil Pollution Cess) Rules 1988.
 Merchant Shipping (control of pollution by Noxious Liquid Substances) 2010
 Merchant Shipping (control of pollution by harmful substances) 2010
 Merchant Shipping (control of pollution by Sewage) 2010
 Merchant Shipping (control of pollution by Garbage) 2010
 Draft Merchant Shipping (control of pollution by Garbage) 2012.
 DCN for Dumping Convention with the Government.
 DCN for Ballast water Management convention with the Government.
 DCN for Anti-fouling system with the Government.

Status of Legislations (Response)



9

Merchant Shipping Act 1958 Section 356 J, K & L.
 OPRC 90 Amendment with the Government.
 OPRC 2000 HNS DCN with the Government.
 OPRC Rules are to be prepared.
 Comprehensive Review of NOS DCP in line with OPRC Rules necessary.
 OPA 90 Elements such as Qualified Individual, Oil Spill Response Organization,
 Qualified crew, Vessel Response Plans (VRP), Certificate of Financial
 Responsibility, Vessel Traffic Service System, Tanker Navigation Safety Standard,
 Vessel Communication Equipments and Heavy penalty for Violation.

Status of Legislations (Liability)



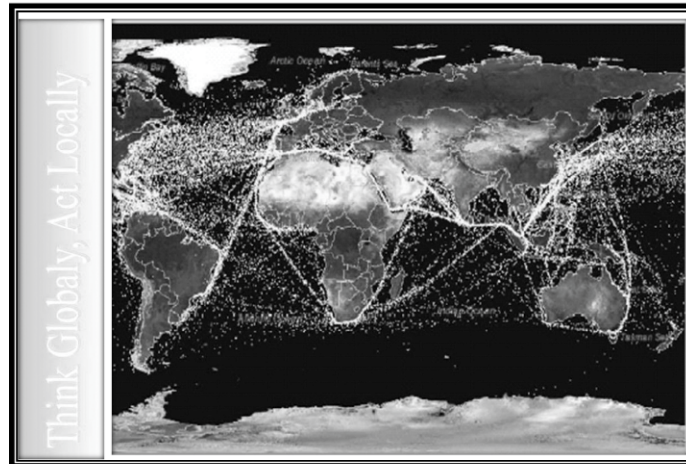
10

Merchant Shipping Act 1958, Section Part XA, XB, XC.
 DCN for Bunker Convention with Government.
 DCN for Wreck Removal convention with Government.
 2011 Amendment for Stringent Penalty with the Government.

Merchant Shipping (Civil Liability for Oil Pollution Damage) Rules 2008.
 Merchant Shipping (International Fund for compensation for Oil Pollution
 Damage) Rules 2008
 Draft Merchant Shipping (Civil Liability for Oil Pollution Damage) Rules 2012.
 Draft Merchant Shipping (International Fund for compensation for Oil Pollution
 Damage) Rules 2011.
 Deployment of ETV under process.

PRESENTATION BY DR RS KANKARA, IGMAM PD

**Oil Spill Modelling and Sensitivity mapping - MoES initiatives
and
Need for integrated Surveillance system for effective Oil Spill management in India**



Dr. R.S. Kankara
Scientist-E, Ministry of Earth Sciences
ICMAM-PD, Chennai 600100

1

Outline of presentation

- 1. Introduction**
- 2. Indian coastline**
 - Potential oil spill threats
 - Marine ecosystems & sensitive Coastal habitats
- 3. Oil Spill trajectory Modelling & Risk Assessment System of MoES**
- 4. Applications of MoES system**
 - ✓ Risk Assessment & Contingency planning- Local models
 - ✓ Forecast mode :Mumbai oil spill (MV RAK and MV Chitra)
- 5. Need for integrated surveillance system**

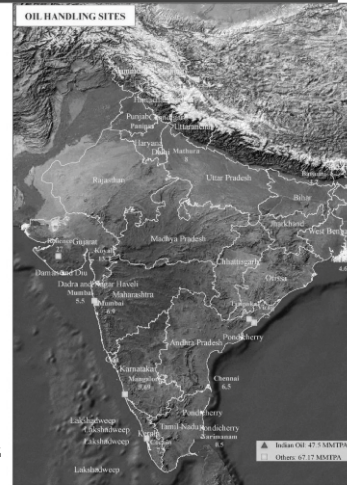
India's EEZ and Coastline-Oil Spill Perspective

Offshore Water

- Major oil routes originate from Persian gulf across the Indian Ocean:
 - One to proceed to western world
 - other the Bay of Bengal to far east and Japan.
- 350 to 400 MMT crude oil through 2500-3000 tankers passes via above two routes

Coastal Water:

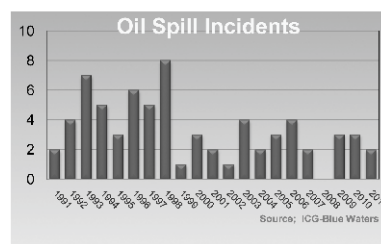
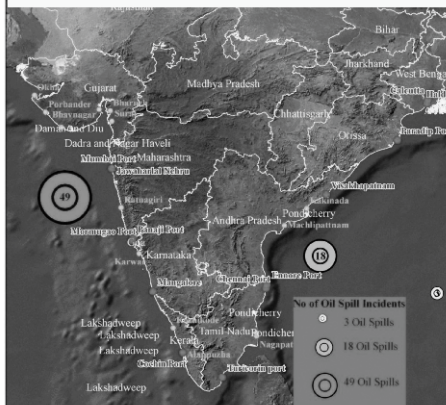
- 12 major and 186 other ports, ~ 20 SPMs
- Projected Crude oil import by 2025~440 MMT
- Considering the large volume of oil transportation at high rate – probability of tanker accident is very high



OIL SPILL INCIDENTS

Causes of Oil Spills

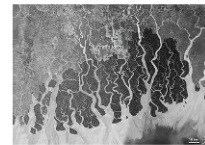
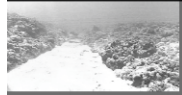
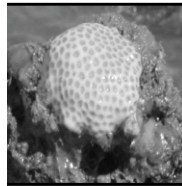
- Collision or grounding of oil tankers
- Oil well leaks/accident at source
- Pipeline rupture
- Oil transfer from ship or lightering



Areas at High Risk

- Gulf of Kachchh - SPMs, Oil Tankers
- Beaches of Mumbai - Close to port
- Goa - Close to port
- Kerala - Kochi port
- Kanyakumari - Oil tanker route
- Gulf of Mannar - Close to Tuticorin port
- Beaches of Chennai and Pulicat Lake :Close to ports
- Coringa - Close to Kakinada port
- Beaches of Vizag- Close to Vizag port
- Sundarbans & Hooghly - Haldia & Kolkata port
- Nicobar Islands - Close to Tanker route
- Lakshadweep Islands - Close to tanker route

Major Critical Coastal Marine Ecosystem



Mangroves :

Sundarbans, Coringa, Pichavaram, Gulf of Khambat & Kutch,

Coral reefs: Gulf of Mannar, Malvan, Gulf of Kachchh, Kadmat, A&N

Turtle nesting:

Gahirmatha, Rushikulya,

MNP/ Sanctuaries/Bio Reserves:

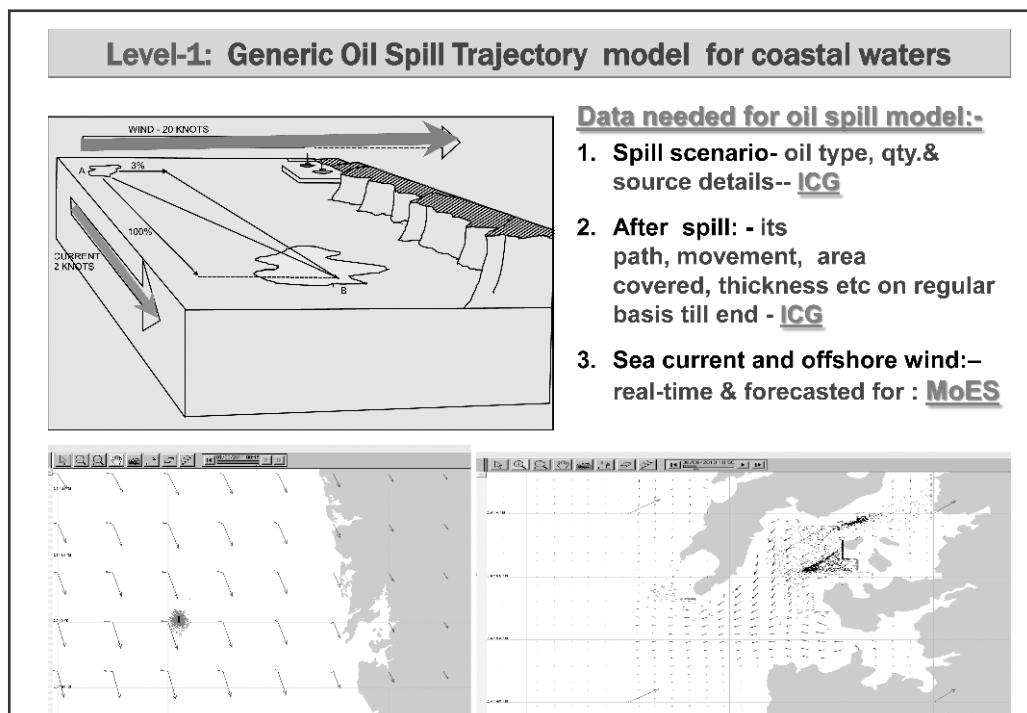
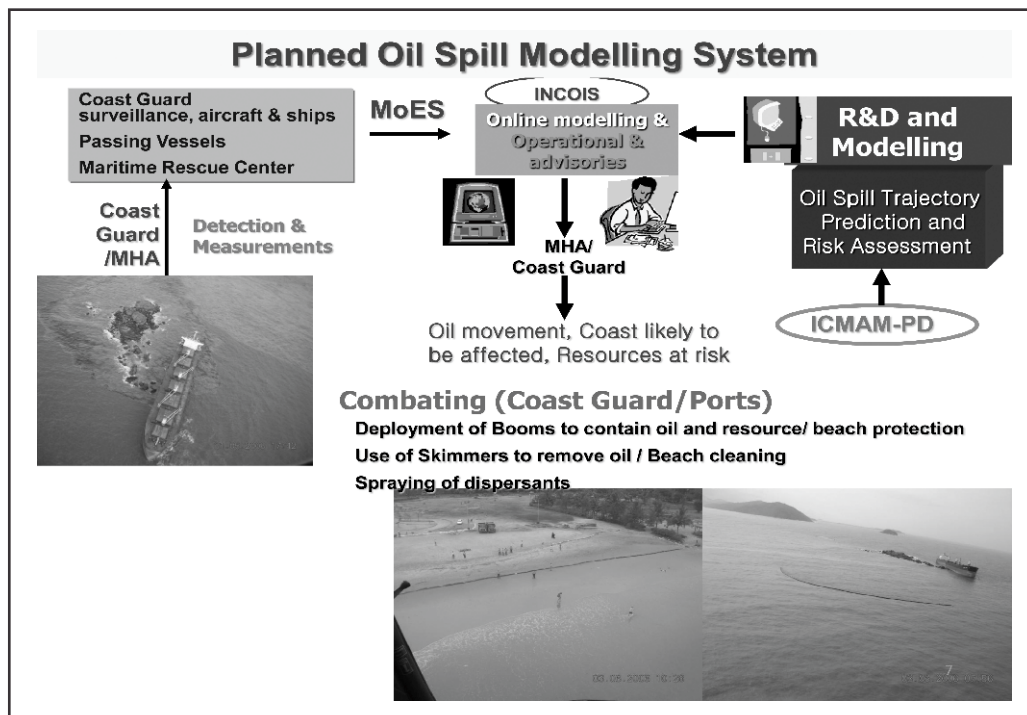
Why Integrated oil Spill Surveillance System for oil spill management?

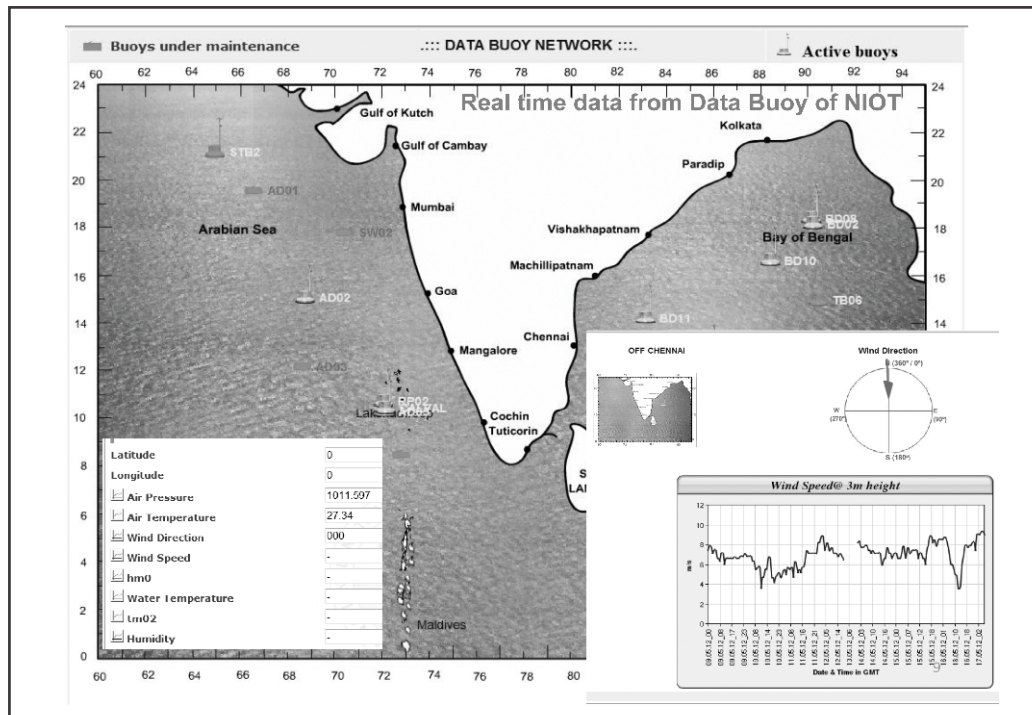
(a) **For knowing / assessment of oil spill source**

1. Spill can occur any where /Any time
2. Details of source - type of accident, oil type etc

(b) **For appropriate /effective decision making**

1. What will be fate of spilled oil?
2. Where it will reach & when?
3. Which are resources likely affected?
4. What is bio-eco sensitivity of the area?
5. Appropriate response strategy?





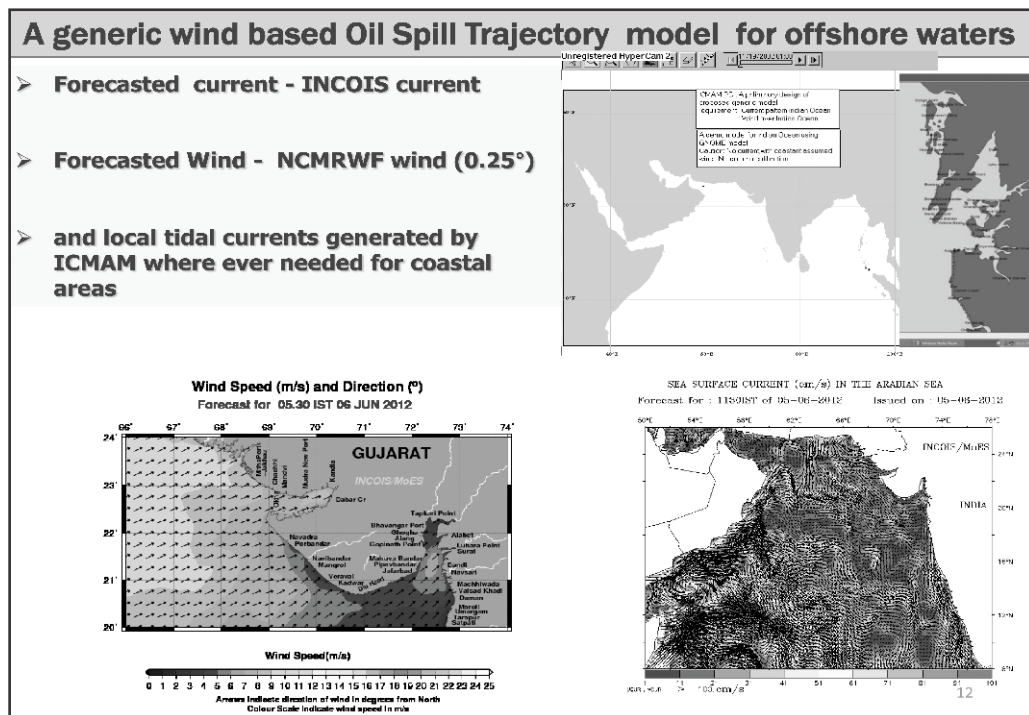
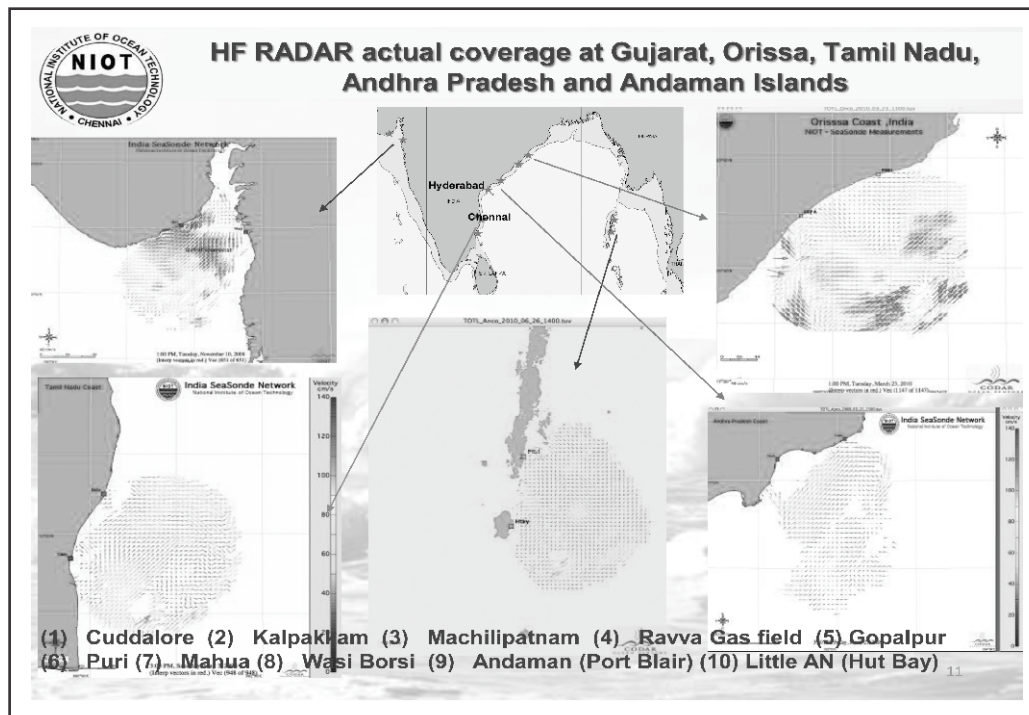
HF Radar network for current data

HF Radar Measures reflected signals from sea surface and works out surface current and Wave parameters. A pair of HF radar stations can cover ~30000 to 40000 km² area off-shore.

Typical shore setup



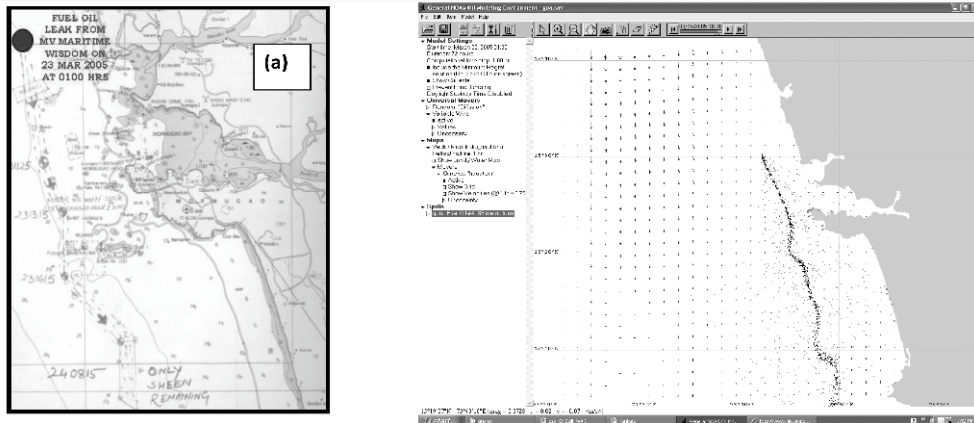
- (1) Cuddalore (2) Kalpakkam (3) Machilipatnam (4) Ravva Gas field (5) Gopalpur (6) Puri (7) Mahua (8) Wasi Borsi (9) Andaman (Port Blair) (10) Little AN (Hut Bay)



A generic NoAA Oil Spill Model has been customized to

1. Forecasted INCOIS current (ROMS) and /or local tidal current ICMAM (ADCIRC & MIKE)+ NCMRWF winds + wind (IMD, NIOT)
2. Model installed at INCOIS for trail and operationalising purpose
3. Model is validated with past data spills-

Calibration MIKE-21 Model for Goa 2005 Oil Spill incident : Vessel MV Maritime Wisdom Bulk Carrier, 110t of Heavy Fuel Oil, on 23 March 05 at 01:00 hrs , location : Off Goa Lat: 15° 30.02' N; Long: 73° 42.02'E, ICG monitored the movement of spill i.e. its position at different time, its shape and extent of spill patch etc



Level-2: habitat Specific Oil Spill model for Contingency Planning

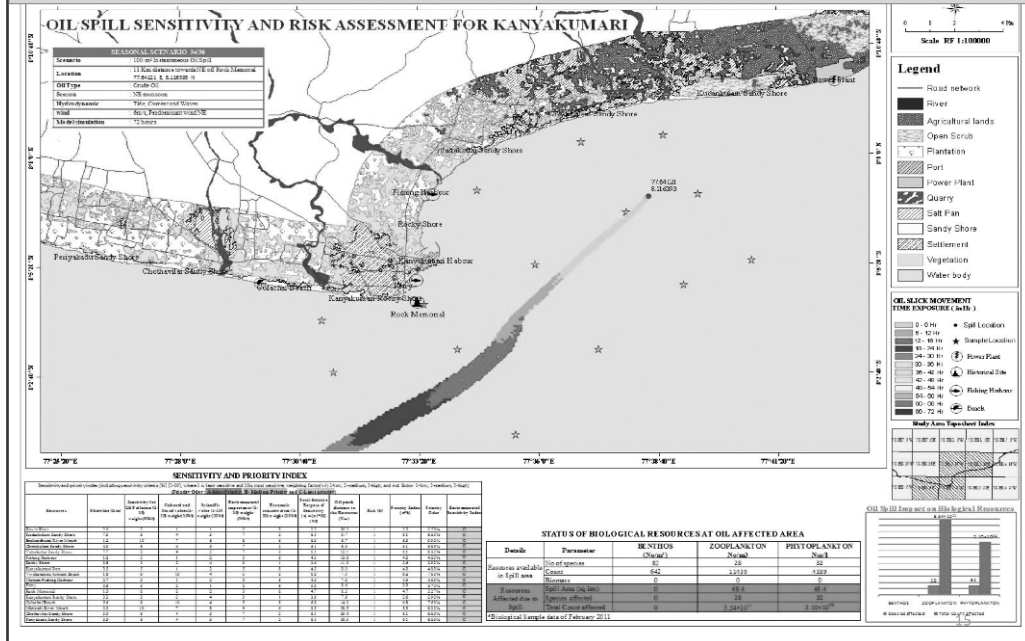
- local oil spill modelling using local hydrodynamics for risk assessment & oil spill sensitivity mapping for for contingency planning – 14 locations
- Scenario based approach – Gulf of Kachchh, Hazira, Dahanu, Goa, Kochi, kanyakumari, Chennai, Kakinada, Vizag



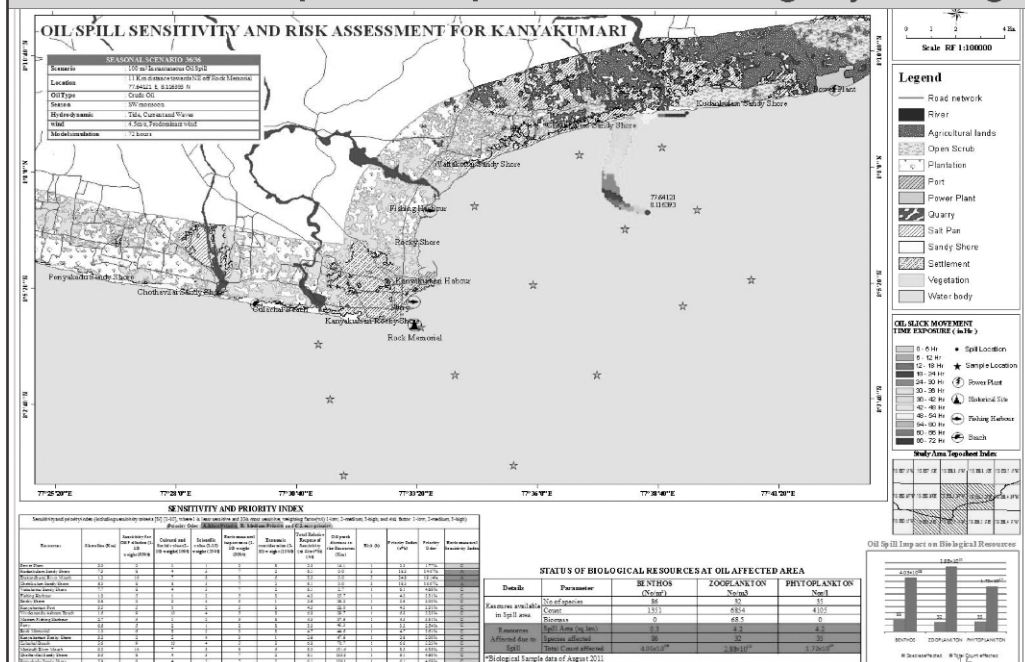
Applications /usefulness

- Seasonal and monthly scenarios using current and wind data
- Ecological Resource mapping
- Identification & categorization of high, medium and low risks of coastline
- Biological data – important to assess the losses due to spill

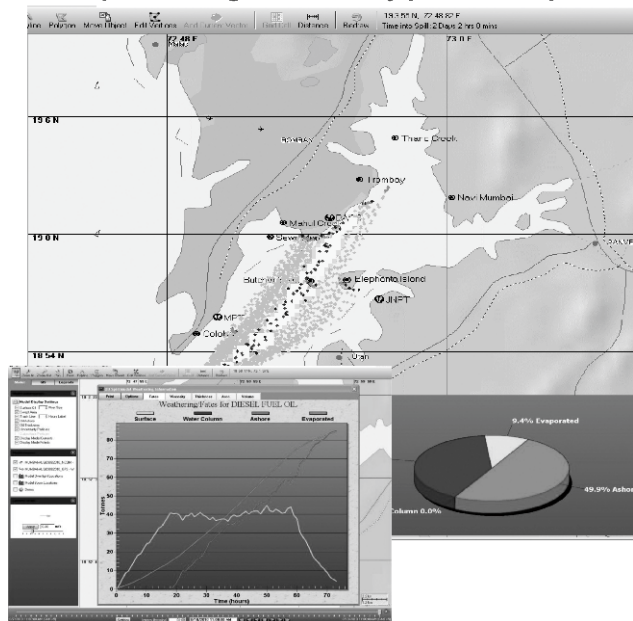
Level-2: habitat Specific Oil Spill model for Contingency Planning



Level-2: habitat Specific Oil Spill model for Contingency Planning



Model used in forecast mode in August 2010 during "Mv Chitra case" ICG requested to generate likely path of oil spill and impacted areas in next 3 days



Oil patches on surface water at Thane Creek during August 2010



Thane Creek with oil patches during August 2010

17

Oil Spill Model was used for "MV-Rak" spill

Spill movement was influenced by nearshore currents which were not captured in ROMS & coastal wind

Model simulation: 24 hrs 08-08-2011(12.30 IST) to 09-08-2011(12.30 IST)

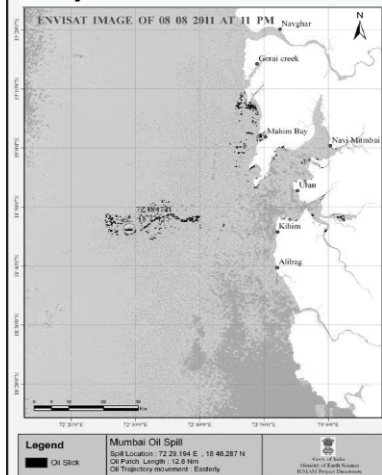
Spill rate : oil leakage 2.5 tons per hour

HD Data used : ICMAM(Mike-21) tidal current + NCMRWF Wind

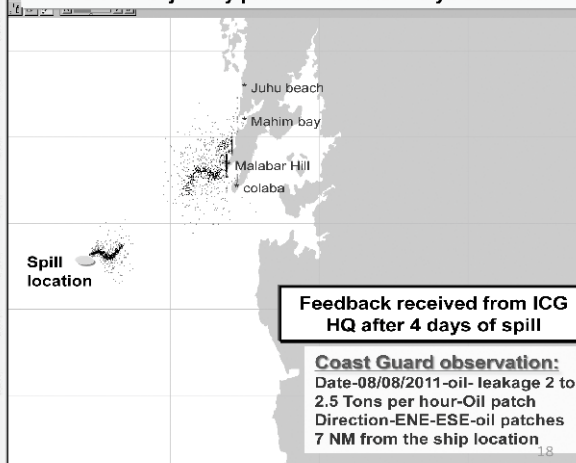
Trajectory : oil patch spread 9.1 NM from Ship location in E-NE direction

The model forecasted trajectory found in good match with subsequent ICG observations. Later compared with Satellite data (Considering the limitation of information about spill scenarios)

Analysis of RS data after 1 week



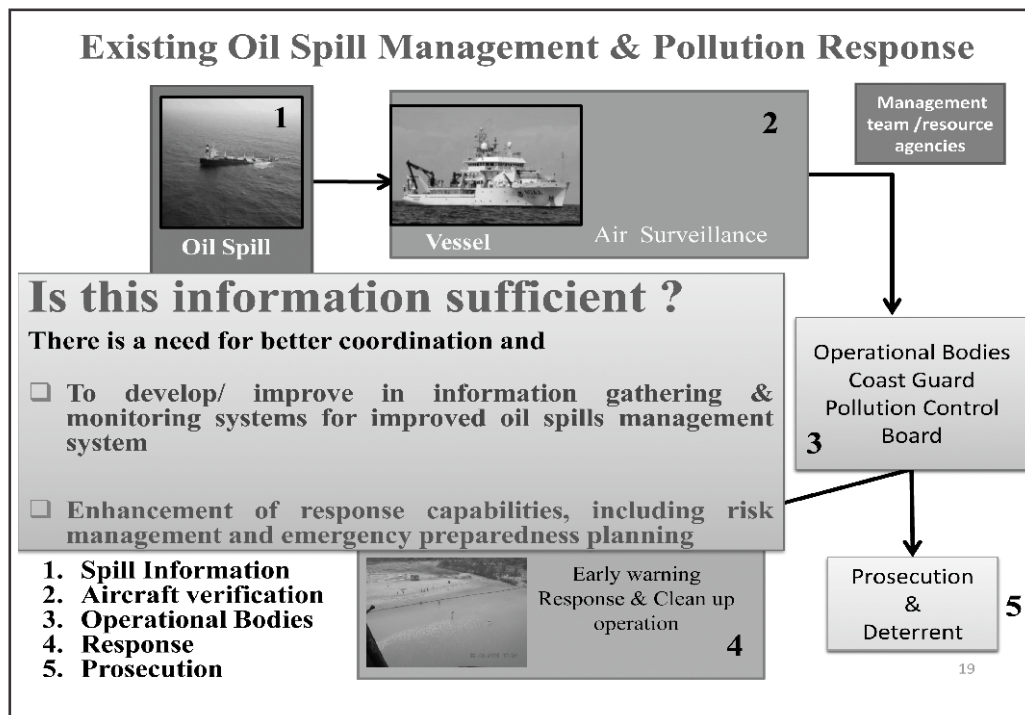
Forecasted trajectory provided to ICG 2 days in advance



Feedback received from ICG HQ after 4 days of spill

Coast Guard observation:
Date-08/08/2011-oil- leakage 2 to 2.5 Tons per hour-Oil patch
Direction-ENE-ESE-oil patches
7 NM from the ship location

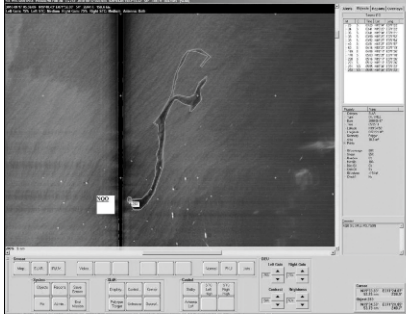

18



Maritime Surveillance System- MSS 6000


The MSS 6000 is built for real time monitoring of sea surface activities. Typical missions include:

- General surveillance for protection of the Exclusive Economic Zone
- Oil spill tracking
- Fishery surveillance
- Ship traffic control
- Search and rescue

MSS 6000 Sensors

- ☐ A Side-Looking Airborne Radar (SLAR): a mapping radar for surveillance of large sea surfaces.
- ☐ The Infrared/Ultraviolet (IR/UV): Line Scanner is used to obtain high resolution imagery of ship wakes, accident sites etc. It is ideal for mapping oil spills and other types of pollution.
- ☐ The still and video cameras

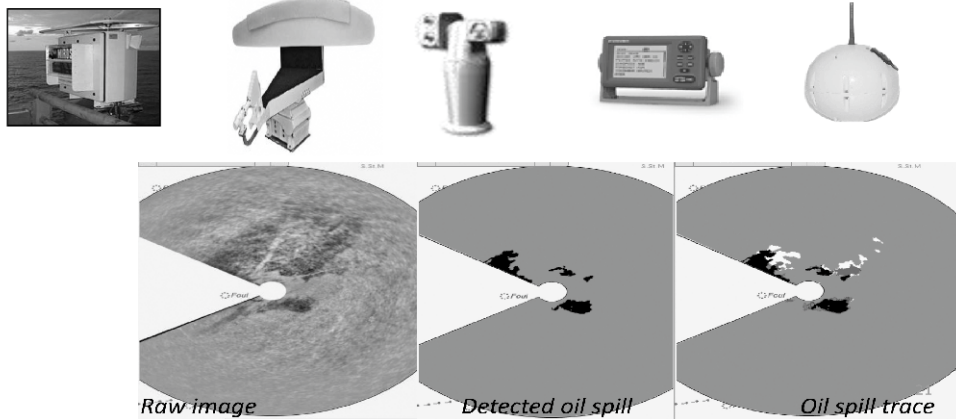


20

The MIROS OSD (Oil Spill Detection) System when applied for surveillance, provides continuous oil spill monitoring of high risk areas, such as

- Off-shore installations
- Near shore ship lanes
- Ports and terminals

- ✓ By automatic oil spill detection and alarm generation, when an oil spill has occurred.
- ✓ Early warning gives better time to verify and characterize the oil spill and decide on the appropriate response, and will contribute to limiting the consequences of the release.



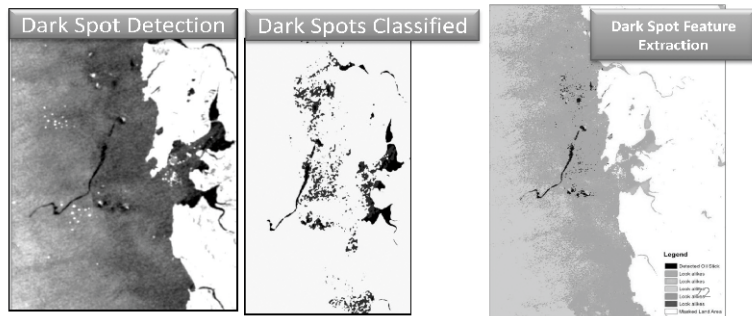
Space Surveillance system

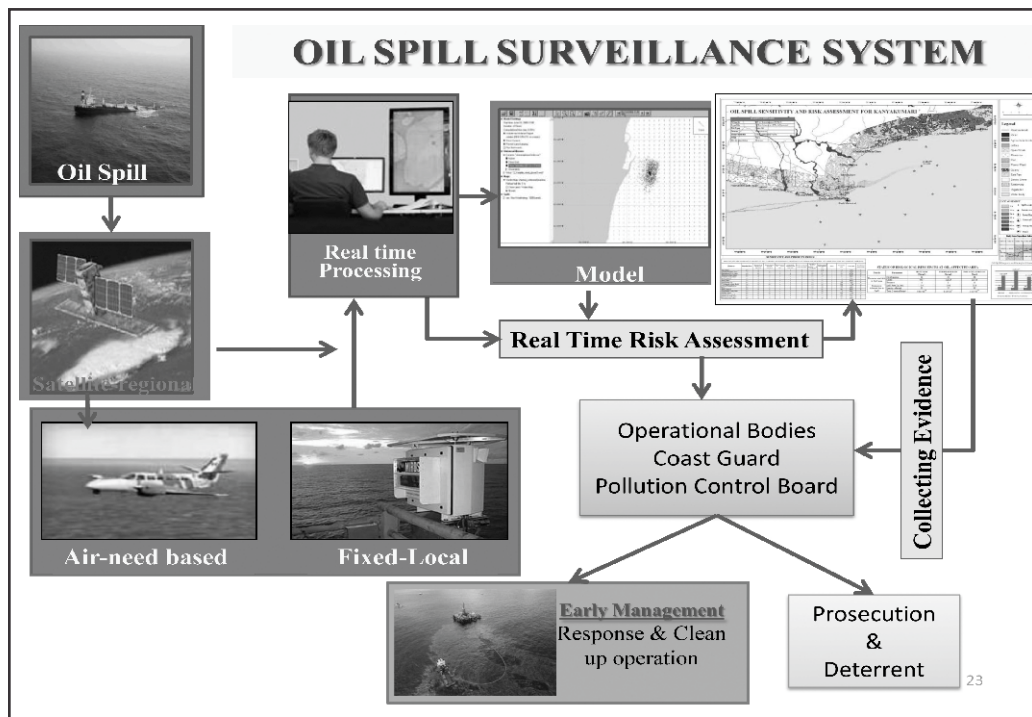
SAR satellite sensors

Useful tool for oil spill surveillance

Satellite	Launched	Owner	Frequency/ Polarization
ERS-1	1991-1996	ESA	C-band/VV
ERS-2	1995	ESA	C-band/VV
RADARSAT	1995	CSA(Canadian)	C-band/HH
ENVISAT (ASAR)	2002	ESA	C-band/VV , HH, alt pol. & cross pol
RADARSAT-2	2005	CSA	C-band/pol. Combinations

Satellite Sensor
(ASAR)
Capabilities





DISCUSSION AND DECISION ON ACTIONABLE POINTS OF PREVIOUS MEETINGS

SI No	Agenda	Proposed By	Action by
1.	<p>Tier-1 Facilities at MbPT and JNPT</p> <p>Procurement of OSR equipment for having tier-1 Oil Spill Response facilities by MbPT & JNPT and signing of MOU with ONGC, BPCL and other stake holders.</p> <p>Deliberations</p> <p>D (FE) brought out that MoU between MbPT, JNPT, ONGC, BPCL, HPCL, IOCL, M/s Aegis Logistics Ltd, M/s TATA Power Ltd, M/s Chemical Terminal Trombay Ltd and Reliance Industries was signed on 18 Feb 11. The MoU catered for about ₹ 30 Crore for procurement of PR equipment. D (FE) further brought out that MbPT has recently issued a tender for OSRO services for the proposed inventory. Mr Viswanathan, MbPT briefed the meeting on the salient features of the tender including the due date of 29 Jun 12, inclusion of one dedicated pollution response vessel and one workboat, the stationing of the oil spill response facilities centrally at Pir Pau, and the likely response times at different locations within the harbour. He added that few vendors were seeking an extension of the tender due date for submission of their proposal. DDG (Ops & CS) recalled that</p>	<p>OISD BPCL MbPT RHQ (W)</p>	<p>MbPT, RHQ(W)</p>

SI No	Item	Proposed By	Action by
	<p>numerous deadlines set in the past for acquisition of tier-1 capabilities had slipped by and hoped that the tender process would positively fructify. The Chairman NOSDCP requested for timely progress on the provisioning of oil spill response facilities.</p> <p>Decision</p> <p>MbPT and other stake holders to establish tier-1 pollution response facilities at Mumbai at the earliest. RHQ (W) to monitor the progress.</p> <p>Point to be retained</p>		
2.	<p>Preparation of Local Contingency Plan (LCP)</p> <p>Preparation of LCP and specification of the role of District Administration as per the ambit of the District Oil Spill Disaster Contingency Plan.</p> <p>Deliberations</p> <p>D (FE) intimated that the issue was also discussed during the Cabinet Secretary meeting on “Oil Spill in Indian Waters” held on 02 Dec 11. It was decided that Secretary (Security), Cabinet Secretariat may have oversight responsibility of the preparation of contingency plans on oil spill of coastal states/ UTs. Secretary (Security) had subsequently chaired a meeting on 28 Feb 12 to further deliberate on the issue. As requested, a copy of sample contingency plan prepared by CGHQ had been forwarded to</p>	<p>RHQ (W)</p> <p>JNPT</p>	<p>All RHQs</p>

SI No	Item	Proposed By	Action by
	<p>Secretary (Security) through MoD for perusal and issuance of necessary directives to all coastal states for early promulgation of Local Contingency Plan. D (FE) further apprised that the LCP of Kerala, Karnataka, Maharashtra, Goa, Puducherry, Tamilnadu, L&M, and A&N had been vetted by the respective Regional Headquarters. The Gujarat Maritime Board brought out that their contingency plan in respect of all their minor ports had already been submitted to the Coast Guard for vetting. It was clarified to GMB that the LCP related to the responsibilities of the District Administration in the event of an oil spill and the attendant need for preventing the spill from reaching ashore and shoreline cleanup. The Chairman NOSDCP reiterated the functional importance of the local contingency plans in the overall preparedness for response to oil spills and desired that all LCPs should be submitted for vetting to respective COMCGs by 15 Aug 12 and, after making good deficiencies, promulgated by 26 Jan 13.</p> <p>Decision</p> <p>Regional Commanders to progress the point for promulgation of LCP by Coastal States/Union Territories by 26 Jan 13.</p> <p>Point to be retained</p>		

SI No	Item	Proposed By	Action by
3.	<p>Need to have Tier-1 facilities prior to commencing exploration/production activity</p> <p>Deep water blocks have been allocated by the MoPNG under the NELP VIII and these blocks are all over the EEZ. The companies employed for exploration need to have minimum tier-1 response capability for undertaking pollution response prior commencing exploration activity in these blocks. Thus license under NELP to be issued on conditions of having a tier-1 response capability or for making arrangements for such OSR.</p> <p>Deliberations</p> <p>The representative of DGH intimated that pollution prevention issues are included in the production sharing contract and opined that the existing PSC obligation adequately addresses the issue. D (FE) stated that joint audit of oil agencies is being undertaken in coordination with MoPNG.</p> <p>Decision</p> <p>DGH may intimate the existing provision in the PSC regarding oil spill response capability for reference and record of Chairman NOSDCP.</p> <p>Point to be deleted</p>	RHQ (A&N)	DGH
4.	<p>Capacity Augmentation</p> <p>Capacity augmentation for removal of oil before spillage in water and also from submerged ships.</p>	RHQ (E)	

SI No	Item	Proposed By	Action by
	<p>Deliberations</p> <p>D (FE) intimated that case studies on oil removal from MV Black Rose and MV Mirach had been published in Jan 2011 and Jul 2011 edition of “Blue Waters” respectively. Capt Kapoor representing the DG Shipping stated that a salvage component to undertake oil removal from grounded/ sunken ships had been included in the contract of salvage cum emergency towing vessels, termed as ETVs as per the decision of the Cabinet Secretary meeting on “Oil Spill in Indian Waters” held on 02 Dec 11. Capt Kapoor added that oil removal from the wreck of MV Rak Carrier sunk off Mumbai also merited a study. The Chairman NOSDCP stated that there was no proposal as yet. However, if the representative of DG Shipping felt that is a need to do so then he could make a presentation in the next NOSDCP meeting, and include lessons learnt.</p> <p>Decision</p> <p>Action completed.</p> <p>Point to be deleted</p>		
5.	<p>Sensitive Areas along the Coast and High Sea for use of Dispersants</p> <p>Coast Guard or appropriate agency in Government of India may notify sensitive areas along the coast and in high sea for use of dispersants.</p>	ONGC	MoEF CGHQ

SI No	Item	Proposed By	Action by
	<p>Deliberations</p> <p>D (FE) intimated that the issue was discussed in the Committee of Secretaries meeting on 02 Dec 2011 and it was decided that MoEF may expeditiously promulgate the necessary notification, after undertaking a survey of the areas and evaluation of the available oil spill dispersants in consultation and co-ordination with D/o Science & Technology and D/o Biotechnology. A meeting was convened by MoEF on 21 Dec 11 to discuss the issue. A Committee has been constituted to draft the requisite notification. Director, MoEF attributed the time delay to procedural formalities and slow response and also change in nominations from some of the agencies. She further intimated that the Committee is likely to hold its first meeting in end August 2012.</p> <p>Decision</p> <p>MoEF may issue requisite Government notification.</p> <p>Point to be retained</p>		
6.	<p>Surveillance System for Leakage from Oil Exploration & Transportation</p> <p>Discharges from ships proceeding to ship breaking yards and even from sunken ship lying in that area are well known. However, a system of surveillance for oil spill should be developed to stop it at the early stage, before it pollutes the coastline/ beaches.</p>	OISD	DoST CGHQ

SI No	Item	Proposed By	Action by
	<p>Deliberations</p> <p>Appraising on the progress on decision of last meeting, D (FE) intimated that IIP Dehradun had conveyed having competence but lacking necessary equipment to undertake fingerprinting of oils. He further brought out that in the meeting of Committee of Secretaries on 02 Dec 2011, it had been decided that D/o Science & Technology may develop and validate the test for identifying polluter at the earliest, and to start with, two oil finger printing laboratories for identifying polluters may be set up at existing premier scientific laboratories/ institutions, one on the east coast and the other on the west coast, with the assistance of CSIR/TERI and Ports. Accordingly, the matter was being pursued with the D/o Science and Technology. The representative of NIO conveyed that the NIO could contribute to the development of the facility, but non-availability of databank would be an issue. In response, D(FE) stated that catalogue of oil produced worldwide was published by US EPA and Environment Canada and available on the web. Dr JS Sharma of ONGC added that all data were available with MoPNG and they could be contacted for the same. GPCB brought shared their experience with laboratories recognised by MoEF and IIP, Dehradun for testing and fingerprinting of tar balls collected from Gujarat coast. All agencies had denied capability to undertake</p>		

SI No	Item	Proposed By	Action by
	<p>finger-print analysis. The Chairman NOSDCP agreed that oil finger printing is indeed the missing link and that the ICG was seized of the issue.</p> <p>Decision</p> <p>DoST may pursue the case as directed by the Committee of Secretaries. CGHQ to monitor progress.</p> <p>Point to be retained</p>		
7.	<p>Mandatory Audit of Tier-1 facilities supported by Legal Rules</p> <p>Coast Guard is mandated for carrying out audit of tier-1 facilities at Indian ports. The procedure is being undertaken on a regular basis wherein contingency plans of ports are being validated by the Coast Guard. However, the state of tier-1 facilities at most of the ports is far from the minimum required inventory. It is therefore proposed that a yearly audit of tier-1 facilities at the ports by the Coast Guard authorities should be made mandatory and should have a legal rider to ensure its compliances.</p> <p>Deliberations</p> <p>D (FE) informed that the ICG is undertaking joint inspection of tier-1 PR facilities of the ports in coordination with MoS. Capt Kapoor stated that as far as mandatory audit is concerned, the DG</p>	COMCG(W)	CGHQ MoS

SI No	Item	Proposed By	Action by
	<p>Shipping totally supported the ICG and drew a parallel with the ISPS audits of port facilities. He opined that audit should go into the legislation and form part of the OPRC rules as and when they are framed under the MS Act. He intimated that the Draft Cabinet Note for transcribing the OPRC 90 amendments to the MS Act 1958 is pending with the Ministry of Shipping. Capt Kapoor further proposed that pending incorporation of the amendment, an MS Notice could be issued by the DG Shipping specifying the requirement of notification of oil spills, notification of OSRO employed, audit requirements, etc.</p> <p>Decision</p> <p>D (FE), CGHQ to forward draft MS Notice for promulgation by DG Shipping.</p> <p>Point to be deleted</p>		
8.	<p>Surveillance System by Ports against Illegal Discharge</p> <p>All resource agencies to have surveillance system to track/detect intentional oil spillage/ pumping out bilges with in their area of jurisdiction and report oil spills to Indian Coast Guard.</p> <p>Deliberations</p> <p>D (FE) briefed that the issue was taken up during the 13th MSDC meeting at Hyderabad on</p>	COMCG (E)	CGHQ MoPNG

SI No	Item	Proposed By	Action by
	<p>13-14 Jun 11. During the meeting a decision was taken that the Ports may equip radar services with oil spill detection software to identify oil spills. The issue was also discussed during the Committee of Secretaries meeting on 02 Dec 11 and it was decided that MoS and MoPNG may study the matter of Installation of Oil Detection Software in the VTMS Radars at ports and VATMS radars of oil companies along the coastline within six weeks. The installation, if found feasible, is required to be done in a time-bound manner thereafter. The representative of MoPNG informed that vendors had indicated feasibility of equipping existing radars with required software and hardware to detect oil spills. Processing of case and implementation would require at least a year.</p> <p>Decision</p> <p>MoPNG may pursue installation of software. CGHQ to monitor progress</p> <p>Point to be retained</p>		
9.	<p>Area of Responsibility for Oil Spill Response</p> <p>Whenever a marine pollution incident happens within the jurisdiction of state government port or any private operator, Coast Guard being CCA on marine PR matters is duty bound to act as central government representative to advise the concerned parties and obtain regular updates/</p>	COMCG (E)	<p>RHQs</p> <p>All Ports</p>

SI No	Item	Proposed By	Action by
	<p>sitreps for conveying to GOI. It is proposed that this process be formalised because many times, parties involved in response ops have refused to give SITREP/INFORMATION to Coast Guard.</p> <p>Deliberations</p> <p>MoS/DG Shipping was requested by CGHQ vide letter dated 20 Oct 11 to issue directives to Ports and Oil handling agencies to report oil spill incidents to nearest Coast Guard station, as per format provided in NOSDCP.</p> <p>Decision</p> <p>COMCGs may liaise with concerned ports/ oil agencies in the event of a spill for effective flow of information.</p> <p>Point to be deleted</p>		
10.	<p>Standardization of Inventory for Tier-1 and Tier-2 capabilities</p> <p>All oil handling/resources agencies are required to cater for tier-1 oil spill response by provision of equipment and manpower so as to contain and recover the spill in a time bound manner. In certain cases use of equipment such as booms will vary with the use with various skimmers depending on the type of spilled oil and weathering process. Presently there are no laid down list of equipment to cater for tier-1 or tier-2 inventory. This is resulting in varying inventory of equipments being</p>	COMCG (NW)	<p>MoS</p> <p>MoPNG</p> <p>OISD</p>

SI No	Item	Proposed By	Action by
	<p>maintained by various oil handling agencies. It is recommended that a standard inventory of pollution response equipment for tier-1 of tier-2 capability may be promulgated.</p> <p>Deliberations</p> <p>The representative of M/s Adani Port stated that the 2,000 meters of boom length for Category A ports specified in the categorization proposed by ICG was beyond capability of ports. The representative of M/s Reliance also expressed that the proposed specification was on the higher side. D (FE) responded that stockpile of oil response equipment is required to be in proportion to the assessed risk. COMCG (West) added that the categorization was drawn up by the ICG based on industry request and questioning the categorization after its dissemination amounted to reinventing the wheel. Chairman NOSDCP clarified that the concept of tier-1 and tier-2 capabilities were based on IMO guidelines and that any port unable to meet the requisite standards shall have sufficient justification. The Chairman NOSDCP directed that concerned COMCGs may be contacted in case of further queries on the subject.</p> <p>Proposed Decision</p> <p>Ports and Oil Agencies to offer comments on categorization to CGHQ.</p> <p>Point to be retained</p>		

SI No	Item	Proposed By	Action by
11.	<p>Promulgation of Optimum Response Time As decided in the OISD seminar dated 27th Aug 10, 'Indian Coast Guard to prescribe optimum response time for operators' tier-1 oil spill response. Accordingly, the operators would have to enhance their preparedness, as required, to meet the response time requirements. This is required as some of the facilities of the same company are located at distance.</p> <p>Deliberations D (FE) informed that the response time of OSVs/ support vessels carrying PR equipment has been proposed in the categorization of oil handling agencies. The representative of OISD intimated that though the oil companies have met and discussed the issue with OISD on 09 Dec 11, there has reportedly been no positive outcome. Dr. JS Sharma of ONGC submitted that the oil companies are expected to engage further on the issue and requested Coast Guard participation in the discussions.</p> <p>Decision OISD may engage in consultations with the oil agencies with participation of D(FE) and decide on the optimum response time.</p> <p>Point to be retained</p>	OISD	CGHQ OISD

DISCUSSIONS AND DECISIONS ON NEW AGENDA POINTS

SI No	Agenda	Proposed By	Action by
1.	<p>MoU between NMPT and other oil handling agencies at Mangalore.</p> <p>Establishment of MoU between NMPT and other oil handling agencies at Mangalore for coordination among the agencies and pool in resources to contain marine oil pollution</p> <p>Deliberations</p> <p>Capt Mohanty of New Mangalore Port conveyed that they did have oil spill response equipment for response within harbour limits but this was below tier-1 capability. He added that NMPT had a MoU with oil handling agencies in the port but they would require MRPL to come onboard. The representative of MRPL intimated that entering into the MoU with NMPT for augmenting the oil spill response capability had substantial financial implication which is being examined by higher management of MRPL.</p> <p>Decision</p> <p>NMPT may enter into MoU with oil handling agencies including MRPL.</p> <p>Point to be retained</p>	RHQ(W)	NMPT MRPL

SI No	Item	Proposed By	Action by
2.	<p>Requirement of Identifying Private OSROs.</p> <p>It has been experienced in recent time and again that assistance of private OSROs is resorted to by the ship owners / PSI/ Ports etc during oil spill contingencies. Due to non-availability of the same in India, services of OSROs from foreign countries are resorted to. This results in inherent delays in importing the requisite equipment into the country. The process is further delayed due to various procedural impediments considering the fact that time is the most critical factor in oil spill response measures, it is considered essential that services of private OSROs may be developed in India also, such requirement becomes critical in the Gulf of Kutchh, where the currents provide limited time for responding to the oil spill. In view of the above, it is recommended that local OSROs may be identified and developed at various locations in India to enhance the efficacy of the oil spill response.</p> <p>Deliberations</p> <p>D (FE) intimated that an Approach Paper on subject drafted by ICG had been circulated by MoD to various concerned agencies for comments and implementation action plan will be worked out in consultation with DG Shipping after approval of Committee of Secretaries. ONGC stated that most oil companies maintain membership with OSRL Singapore who commits reaching the affected area within 24 hours. D(FE)</p>	<p>RHQ(NW) ONGC</p>	<p>CGHQ</p>

SI No	Item	Proposed By	Action by
	<p>clarified that the Approach Paper concerned ships calling at Indian ports. As regards the Gulf of Kutchh, the Chairman NOSDCP reiterated that it is a very critical area and stressed upon the need to ensure maintenance of tier-1 facilities by all operators in the area.</p> <p>Decision</p> <p>ICG to pursue implementation of private OSRO.</p> <p>Point to be retained</p>		
3.	<p>Financial Support During Oil Spill Response.</p> <p>The pollution response operations across the globe are undertaken on the concept of 'Polluter Pays'. In the absence of stringent laws, often the ship owner is not available immediately after the incident or there are inherent delays in arranging the funding. This results in delays in undertaking the assistance from the private players/ third parties such as OSROs or other agencies in the region. Therefore, there is a requirement of developing a fund similarly on the line of US Coast Guard, where a pre decided amount is placed at the discretion of the incident Commander for disposal during the response operation. The fund in case of US is developed through a tax on the oil handling agencies, tanker associations etc. It is recommended that similar fund may be developed in India and be place at the disposal of the coordinating agency (Coast Guard/ State Govt.) as the case may be.</p>	RHQ(NW)	MoS

SI No	Item	Proposed By	Action by
	<p>Deliberations</p> <p>D (FE) brought out that as per decision of meeting of Committee of Secretaries on 02 Dec 2011, MoS is required to examine the issue of fund and make a firm proposal. DDG (Ops & CS) stated that the US Coast Guard holds US\$ 1 Billion in Contingency Funds and the USCG On-Scene Commander is authorized to spend up to US\$ 25,000 in a single instance. Similarly, the UK Maritime and Coast Guard Agency maintained a contingency fund of 100,000 pounds. The Chairman opined that the ICG may await the recommendation from the Ministry of Shipping.</p> <p>Decision</p> <p>MoS may examine issue as decided in the meeting chaired by the Cabinet Secretary.</p> <p>Point to be retained</p>		
4.	<p>Common MoU</p> <p>During any major oil spill, there might arise a need for use of PR equipments held by various ports and agencies. It is therefore important that ICG should act as a central agency and formulate an action plan to have a common MoU which binds all the agencies to provide active assistance in case of oil spill. The MoU will ensure that a mechanism is already in place to deal with large scale oil spill in sensitive area such as in the Gulf of Kutchh</p>	Mundra Port & SEZ	

SI No	Item	Proposed By	Action by
	<p>and Gulf of Khambaat where a large amount of oil is being handled by various agencies.</p> <p>Deliberations</p> <p>The Chairman NOSDCP observed that MoU is voluntary and guided by commercial considerations. D (FE) informed that MoUs already exist between operators in GoK and most ports. DDG (Ops & CS) opined that it was impractical and no specific purpose was to be served by common MoU covering everyone across the country.</p> <p>Decision</p> <p>Point to be deleted</p>		
5.	<p>Model for prediction of oil slick movement –</p> <p>Coast Guard to nominate the agency such as NIO, NIOT etc. to predict the oil slick movement in the event of oil spill in the sea. So that in case of oil spill the oil company can approach the agency through Coast Guard to get the real time data which will help in deploying the oil spill response equipment.</p> <p>Deliberations</p> <p>ICMAM PD recalled the forecasts of oil spill trajectory rendered to the Coast Guard during the MV Chitra oil spill. The representative of INCOIS indicated that they possessed requisite</p>	OISD	INCOIS MoPNG CGHQ

SI No	Item	Proposed By	Action by
	<p>capability and submitted a pamphlet published by them describing the system details. Chairman NOSDCP opined that the details should be published in <i>Bluewaters</i>.</p> <p>Decision</p> <p>INCOIS Pamphlet on oil spill prediction to be published in Bluewaters. MoPNG may examine feasibility of developing prediction software.</p> <p>Point to be retained</p>		
6.	<p>An Oil Spill Detection and Tracking Surveillance System.</p> <p>More than 80 oil spill have occurred in Indian coastal water since 1980. Out of 80, about 50 spills have occurred along West Coast of India, particularly Gujarat and Maharashtra coast. Number of oil installation and facilities are congregated around Mumbai and GoK coast. The tanker traffic and risk of oil spills are bound to increase in future. Therefore, there is a need to explore the possibilities for an effective and fool proof surveillance system to monitor and detect the oil in case of an oil spill. Various surveillance mechanisms such as remote sensing, HF Radar or aircraft are in practice in developed countries. It will be appropriate to explore the possibility to have a suitable system for priority locations such as Mumbai coast, Gulf of Kutchh etc.</p>	ICMAM PD	MoPNG CGHQ

SI No	Item	Proposed By	Action by
	<p>Deliberations</p> <p>D (FE) apprised that issue of installing detection software on VATMS radars discussed in meeting chaired by Cabinet Secretary on 02 Dec 11 and MoPNG required to pursue matter. D (FE) further proposed that it would be beneficial if oil spill detection software were to be available on CSN radars with real time feed to ICG.</p> <p>Decision</p> <p>MoPNG may pursue implementation on VATMS on offshore installations. ICG to examine feasibility of installing oil spill detection software in ROS in sensitive locations.</p> <p>Point to be retained</p>		
7.	<p>Cordoning off Oil Berths/ SPMs.</p> <p>Oil Tankers/ VLCC/ ULCC visit Indian ports for embarkation and disembarkation of cargo. The embarkation/ disembarkation take place at alongside jetty or SPMs. It is recommended that directives may be framed and issued to all stake holders at these ports to ensure cordoning-off these berth with PC Booms during embarking/ disembarking of oil and oil products as is being done in advance countries like Japan. Further, specialized tugs/vessels may be kept standby for immediate reaction in case of any eventuality.</p>	RHQ(NW)	<p>OISD</p> <p>MoS</p> <p>All ports</p>

SI No	Item	Proposed By	Action by
	<p><u>Deliberations</u></p> <p>COMCG (NW) suggested that the practice of booming tankers at alongside berths and SPMs is the norm in many countries and even in Chennai port. The practice of cordoning will provide effective containment in the event of spills. It will also keep response personnel in-date in deploying booms. The representative of M/s Adani Port expressed constraints in implementing such a practice in their port as anchoring of boom would not be feasible due to severe tidal effects. Capt Kapoor offered to look up legislation and/or guidelines adopted in other States. The Chairman NOSDCP recommended that all ports should follow best practicable safe operating procedure to prevent and contain oil spills.</p> <p>Decision</p> <p>Ports may adopt cordoning-off oil berths/ SPMs as best practice/ SOP.</p> <p>Point to be retained</p>		

PROGRAMME
17TH NATIONAL OIL SPILL DISASTER CONTINGENCY PLAN
(NOSDCP) & PREPAREDNESS MEETING

Venue : **Hotel Cambay Hotel & Resort, GIDC, Sector-25**
Gandhinagar, Gujarat-382044

Date : **12 Jun 2012**

Dress : **8As for Service Officers**

SL	TIME	EVENT
1202	0900	Delegates arrive & Registration
1204	0935	Chairman Arrives
1206	0937	Inaugural Address by the Chairman, NOSDCP
1208	0945	Book Release: "National Plan Inventory of Marine Oil Spill Response Resources in India"
1210	0947	NOSDCP overview by Director(FE)
1212	1000	"Legislative Aspects of Oil Spill Response in India" Presentation by Capt Deepak Kapoor Nautical Surveyor-cum-DDG(Tech), DG Shipping
1214	1015	"Surveillance systems for Sensitive Areas" Presentation by Dr. RS Kankara, Scientist E, ICMAM PD
1216	1030	Tea Break
1218	1045	Discussion on Actionable Agenda of Previous Meetings
1220	1145	Discussion on New Agenda Points
1222	1245	Closing Address by DGICG
		Lunch

17th NATIONAL OIL SPILL DISASTER CONTINGENCY PLAN (NOSDCP)
AND PREPAREDNESS MEETING - 12 JUN 2012

LIST OF PARTICIPANTS

Sl.	Name	Designation	Organisation
1.	Vice Admiral MP Muralidharan, AVSM, NM	Chairman	Indian Coast Guard
2.	IG SPS Basra, YSM, PTM, TM	COMCG (West)	Indian Coast Guard
3.	IG SP Sharma, PTM, TM	COMCG(East)	Indian Coast Guard
4.	IG KC Pande, TM	COMCG(NE)	Indian Coast Guard
5.	IG VSR Murthy, PTM, TM	COMCG(A&N)	Indian Coast Guard
6.	IG KR Nautiyal, TM	DDG(Ops&CS)	Indian Coast Guard
7.	DIG BS Yadav, TM	COMCG(NW)	Indian Coast Guard
8.	DIG AKS Chauhan, TM	CLO	Indian Coast Guard
9.	DIG AA Hebbar, TM	D(FE)	Indian Coast Guard
10.	Comdt SK Singh	Oi/C PRT (East)	Indian Coast Guard
11.	Comdt R Nath	CSO(Ops)/ RHQ(NE)	Indian Coast Guard
12.	Comdt PS Jha	Oi/C PRT (West)	Indian Coast Guard

Sl.	Name	Designation	Organisation
13.	Comdt Himanshu Nautiyal	Joint Director (FE)	Indian Coast Guard
14.	Comdt Satwant Singh	Oi/C PRT (A&N)	Indian Coast Guard
15.	Comdt Anurag Kaushik	CO, ICGS H-187	Indian Coast Guard
16.	Cdr Manmohan Singh	Joint Director(P&A)	Flag Officer Defence Advisory Group
17.	Cdr Kapil Bhatia	NA to DGICG	Indian Coast Guard
18.	Dy Comdt Bhanu Gupta	ADC to DGICG	Indian Coast Guard
19.	Shri B. Poiyaamozhi	Development Advisor (Ports)	Ministry of Shipping
20.	Dr. Chhanda Chowdhury	Director	Ministry of Environment & Forests
21.	Mr. Shashi Vardhan	Additional Director (Env)	Oil Industry Safety Directorate
22.	Mr. RS Sikdar	Under Secretary	Ministry of Petroleum and Natural Gas
23.	Capt. Deepak Kapoor	Nautical Surveyor – cum- Dy Director General (Tech)	Directorate General of Shipping
24.	Mr. Arun Bhattacharjee	GM, HOD (Environment)	Directorate General of Hydrocarbon
25.	Mr. VS Mishra	Assistant Director (Marine)	Directorate of Logistics Customs and Central Excise

Sl.	Name	Designation	Organisation
26.	Mr. SJ Prasad	Scientist, ISG	Indian National Centre for Ocean Information Services, Hyderabad
27.	Dr. RS Kankara	Scientist 'E'	Integrated Coastal and Marine Area Management Project Directorate
28.	Dr. MT Babu	Scientist	National Institute of Oceanography
29.	Dr. Pradeep Kumar Verma	Scientist 'F'	Naval Materials Research Laboratory, Ambarnath
30.	Mr. SK Bhalla	Tech. Advisor	Indian National Ship Owners' Association, Mumbai
31.	Comdt (JG) A Saxena	Coastal Safety & Security Officer	Maharashtra Maritime Board
32.	Capt. M Anbarasan	Port Officer, Cuddalore	Tamil Nadu Maritime Board
33.	Mr. Atul A Sharma	DGM (Environment)	Gujarat Maritime Board
34.	Mr. BR Naidu	Additional Director & Zonal Officer	Central Pollution Control Board
35.	Mr. VR Ghadge	Senior Environment Engineer	Gujarat State Pollution Control Board
36.	Mr. Anindya Dasgupta	Environmental Engineer	West Bengal Pollution Control Board

Sl.	Name	Designation	Organisation
37.	Mr. K Venkateswar Rao	Jt Chief Environmental Engineer	Andhra Pradesh Pollution Control Board
38.	Mr. MA Baiju	Environmental Engineer	Kerala State Pollution Control Board
39.	Mr. CD Kumar	RSEO	Karnataka State Pollution Control Board
40.	Mr. Dilip Vishwanathan	Addl Chief Mechanical Engineer	Mumbai Port Trust
41.	Mr. SS Kharche	Executive Engineer	Mumbai Port Trust
42.	Capt. PT Sadanandan	Dock Master/ Dy PFSO	Chennai Port Trust
43.	Mr. Sravan Kumar	Deputy Manager (Environment)	Ennore Port Trust
44.	Capt. HK Sibal	Deputy Conservator	Kandla Port Trust
45.	Capt. P Mohanty	Dy Conservator i/c	New Manglore Port Trust
46.	Capt. SS Tripathi	Deputy Conservator	Mormugao Port Trust
47.	Capt. IS Virdee	DGM-Marine Services	Adani Ports & SEZ Ltd
48.	Capt. Vetrivel Ramadoss	Asst. Vice-President (Marine Operations)	Karaikal Port Pvt Ltd
49.	Dr. JS Sharma	DGM-Chem	Oil and Natural Gas Corporation Ltd
50.	Dr. SS Kashyap	DGM(Chem)-I/C Environment	Oil and Natural Gas Corporation Ltd
51.	Mr. M Kannan	Vice President	Reliance Industries Ltd, Jamnagar

Sl.	Name	Designation	Organisation
52.	Cdr NV Rao	Base Manager, Kakinada	Reliance Industries Ltd (E&P), Kakinada
53.	Mr. Pradeep Thatte	Joint Senior Vice President	Bharat Oman Refineries Ltd
54.	Mr. Sudhir Patkar	Asst Manager	Bharat Oman Refineries Ltd
55.	Mr. Azhar Kazi	Senior Officer (QHSE)	Gujarat State Petroleum Corporation Ltd
56.	Mr. Purnendu Kumar	HSE Manager	Niko Resources Ltd
57.	Mr. D Sarveswara Rao	Manager - Marine	Hindustan Petroleum Corporation Ltd
58.	Mr. Atul K Bhongle	Senior Manager (Fire & Safety)	Mangalore Refinery and Petroleum Ltd
59.	Capt. Alok Kumar	Port Captain	Vadinar Oil Terminal Ltd, Essar