

#### **INDIAN COAST GUARD**

#### (MINISTRY OF DEFENCE)

## PROCEEDINGS OF 15<sup>th</sup> NOS-DCP AND PREPAREDNESS MEETING 2010

- 1. The Fifteenth "National Oil Spill Disaster Contingency Plan (NOS-DCP) and Preparedness" meeting, the first bi-annual meeting of 2010 was held at KDM Institute of Petroleum & Exploration, ONGC, Dehradun on 18 Jun 2010.
- 2. The proceedings of the meeting are enclosed for information and necessary action.

(A Athinarayanan) Commandant Director (F&E)

**Encl** :Proceedings of the meeting EP/0720/15<sup>th</sup> Meeting Date 31 Jul 10

Coast Guard Headquarters, National Stadium Complex, Purana Quila Road, New Delhi–100 001 Telephone numbers: 23074131/23388668 Telefax: 23074131, E-mail : dfecghq@gmail.com, Website : www.indiancoastguard.nic.in

## Enclosure to the CGHQ EP/0720/15<sup>th</sup> Meeting dated \_ Jul 10

## PROCEEDINGS OF THE FIFTEENTH NATIONAL OIL SPILL DISASTER CONTINGENCY PLAN (NOS-DCP) AND PREPAREDNESS MEETING HELD AT KDM INSTITUTE OF PETROLEUM & EXPLORATION, ONGC, DEHRADUN ON 18 JUN 2010.

#### Appendices:-

'A' - Inaugural Address of the Chairman

'B' - Discussions and decisions on old agenda points

'C' - Discussions and decisions on new agenda points

'D' - NOS-DCP Overview

'E' - Programme

'F' - List of delegates

- 1. The Fifteenth National Oil Spill Disaster Contingency Plan (NOS-DCP) and Preparedness meeting was held at KDM Institute of Petroleum & Exploration, ONGC, Dehradun on 18 Jun 2010. Vice Admiral Anil Chopra, AVSM, Chairman NOSDCP chaired the meeting.
- 2. In his inaugural address, the Chairman welcomed all delegates to the 15<sup>th</sup> NOSDCP meeting and reiterated the requirement of constant review of the preparedness and response capabilities, with a view to prepare all agencies to respond to any oil spill contingency, which may arise out at sea. The Chairman

appreciated the efforts made by the Government of Tamil Nadu and the Government of Orissa, in dealing with the oil spills which were washed ashore from two minor oil incidents occurred off Chennai on 02 Jan and off Gopalpur on 12 Apr 10. He however intimated the operators of the offshore installations, especially off the Mumbai High to undertake a thorough check of the operational safety system of the offshore installations, as minor oil sheens are reported by Coast Guard aircraft around the offshore installations.

3. The Chairman further intimated that in the past six months, the Ministry of Shipping has prepared many draft legislative efforts to amend the Merchant shipping Act 1958, in line with the IMO conventions relating to marine environment protection to which India has recently became a party. He advised all Ports and Oil Handling agencies to prepare themselves accordingly as the establishment of Contingency Plan and Tier-I facility will become mandatory after the amendments are brought into force. He also intimated that the Coast Guard has concluded a MoU with AMET University, Chennai for the conduct of IMO OPRC level –II course regularly and requested the stake-holders to avail the opportunity being provided. He concluded his address by making a mention of the oil spill incident which occurred as a result of explosion to the offshore oil rig Deepwater Horizon at the Gulf of Mexico and requested the oil companies to be vigilant and adhere to all safety procedures relating to offshore oil

exploration and production. The copy of the Inaugural Address made by the Chairman NOSDCP is placed at **Appendix "A".** 

- 4. The important issues which were discussed and deliberated upon during the meeting included establishment of Tier-I facilities in major ports, establishment of oil spill response organisation for tackling large oil spills, preparation of contingency plan by the coastal states for oil pollution, legislative efforts for NOSDCP, establishment of Coastal Bio-shield, ocean monitoring through satellites, Port reception facilities and utilisation of Oil Cess Fund. All delegates actively participated in the meeting and points meriting attention were discussed thoroughly and appropriate decisions were taken after taking into consideration of the opinion provided by the delegates and the experts. The discussions and decision on old agenda points and new agenda points are placed at **Appendix 'B'** and **'C'** respectively.
- 5. The Secretary, NOS-DCP & Director (Fisheries and Environment), CGHQ briefed the delegates about the developments at the national level since last NOS-DCP meeting and the efforts made by the Coast Guard on the implementation of the decisions taken in the previous NOSDCP meeting and coordination of pollution response training. The copy of the presentation made by the Director (FE) on overview of NOSDCP is placed at **Appendix 'D'**.

6. The following presentation/talk were arranged during the meeting for the benefit of the members:-

S. No.	Subject	By Whom
(a)	Talk on Offshore Safety Issues	Shri AK Hazarika,
		Director (Onshore), ONGC
(b)	Deepwater Horizon Oil Spill	Comdt Donny Michael,
	Response at Gulf of Mexico, USA	Joint Director (FE), CGHQ
(c)	Floating Production Storage and	Dr. PK Pant,
	Offloading (FPSO) platforms	Sr. Vice-President HSE,
		RIL, Mumbai
(d)	Oil Finger Printing and	Dr. JS Sharma,
	Identification of Polluter	DGM(Chem.), ONGC

- 7. The Chairman in his concluding address thanked all stakeholders for attending the meeting and appreciated the efforts made by the ONGC for hosting the 15<sup>th</sup> NOSDCP and preparedness meeting. He thanked all members who made informative presentations. Finally, the Chairman appreciated the members for the cooperation made in implementing the decisions taken during the previous meeting and requested the members to take further necessary actions on points deliberated during the meeting in a timely manner.
- 8. The programme for the meeting is placed at **Appendix 'E'**. A total of 48 delegates from various Government Departments, Ports and Oil Companies attended the meeting. The list of delegates, who participated in the meeting is placed at **Appendix 'F'**.

## INAUGURAL ADDRESS BY THE CHAIRMAN AT 15<sup>TH</sup> NOS-DCP MEETING AT DEHRADUN

The Director (Onshore) of ONGC, Senior officers of the Indian Coast Guard, officers representing various Ministries and Departments of the Central and State Governments, members from the Major Ports and Oil Industries and other distinguished delegates.

It is indeed a pleasure to be amongst you, at this very important meeting dealing with marine environment protection. The main objective of this meeting is to review our preparedness and response capabilities, with a view to prepare ourselves to respond to any oil spill contingency, which may arise at sea. This meeting also affords us an opportunity to monitor the progress made by various resource agencies whilst shouldering their responsibilities, as per the provisions of NOSDCP.

- 2. In the past seven months, the only one oil spill incident which has occurred close to our shores has been from the ship 'MV Malvika', off the Orissa coast on 19 Apr 10. The other pollution related incidents include, bilge discharge from an unidentified ship which washed ashore near South Chennai coast on 02 Jan 10, and sighting of minor sheen / leakage around the offshore installations in Mumbai High ODA. The shoreline cleanup efforts by the Government of Orissa for MV Malvika incident, and the Government of Tamil Nadu for the oil bilges discharge incident was swift, and the same needs to be commended.
- 3. However, the sheen and leakage sighted by CG aircraft in the Mumbai ODA is indeed a matter of concern. The recent 'Deepwater Horizon' incident in the Gulf of Mexico is a grim reminder of the disaster that may strike the

marine environment, if the safety system of the offshore installations are not tested and checked regularly. In this context, I would urge all the resource agencies, especially the offshore oil handling agencies to undertake a thorough check of the safety systems of all **offshore installations**. I would also request the MoPNG to audit all the offshore installations for integrity and effectiveness of the safety systems.

- 4. I am indeed pleased with the scheme of implementation of decisions taken at the NOSDCP meetings. The NOSDCP's concern over the operation of iron-ore bulk carriers during the monsoon period has been sufficiently addressed by the Ministry of Shipping. The MoS notification to the ports to handle such cargo under protected conditions, and carrying out of strict cargo loading checks prior sailing of such vessels, is an important measure to arrest the trend of capsizing iron-ore laden ships. Another highlight of NOSDCPs efforts, is the incessant pressure on the ship-owner of MV Asian Forest, which sank off New Mangalore in Jul last year, for removal of trapped fuel oil. The removal of trapped oil in Jan this year, neutralized the impending threat of oil discharge during the monsoons. This goes on to show, that the decisions taken in this forum have a very wide acceptance, both at both the government and the industry levels. I am confident, that this trend will continue, and I request all the stockholders to take necessary measures in the larger interest of protecting our marine environment.
- 5. Since India became a party to the IMO Oil Pollution Preparedness Response and Cooperation Convention (OPRC) 1990, there have been no legislative provisions towards ensuring preparedness for oil pollution incidents. As on date, all the preparedness efforts are spearheaded through the NOSDCP provisions. However, a draft amendment to the Merchant Shipping Act has recently been initiated by the Ministry of Shipping, and is expected to come into force shortly. The amendment prescribes for preparedness measures, such as mandatory preparation of Contingency Plans through risk assessment, and

compulsory maintenance of Tier-I oil spill response facility at all Ports and Oil Handling facilities. It is my endeavour to ensure, that all Ports and Oil companies which are an integral part of NOSDCP, have the requisite contingency plans and Tier-I oil spill response facility in place, even before such legally binding regulations come into force. This will ensure a smooth transition from voluntary compliance to a legal compliance, without much direction or compulsion from any ministry or department.

- 6. With regard to the establishment of Tier-I facilities, my primary focus would be on the MbPT and JNPT, as they are two most important ports of our country. I am informed, that the ONGC has offered its consent to form part of the MoU for the MbPT Tier-I system, and as far as JNPT is concerned, some Tier-I equipment are already in place through M/s BPCL. These developments are very encouraging, and I am confident that very soon these two Ports will put in place the necessary Tier-I system, for others to emulate.
- 7. The audit of ports carried out last year highlighted, that some ports need to establish specific Pollution Response equipment viz. fast current booms, deflection boom and shoreline protection measures, etc. The necessary information on these equipment has already been provided by the ICG to the concerned ports, and all these ports are requested to complete the establishment of correct PR inventory for their Ports and Oil terminals at the earliest. I have also been informed, that the Voluntary IMO Member States Audit Scheme (VIMSAS), which checks the effectiveness of the implementation of IMO conventions, will become mandatory soon. Hence, we should not be found wanting in meeting the prescribed standards, for which continuous training and preparedness is the key.

- 8. On the training front, I am glad to inform that the Coast Guard has recently concluded a MoU with AMET University Chennai, for regular conduct of IMO level-II oil spill response training. Besides the IMO level-II course, the Indian Coast Guard is also conducting IMO level-I course at the three Coast Guard Pollution Response Centres at Mumbai, Chennai and Port Blair. The schedule is already hoisted on the Coast Guard website, and the resource agencies may make use of the same for training of their personnel.
- 9. The Coast Guard has closely been monitoring the progress of response to the 'Deepwater Horizon' incident, from the date of incident on 20 Apr till date, and there are lessons to be learnt. The issues of safety to offshore crew, the chances of blow-out, the capping of the well-head, the operation of Remote Operating Vehicles, the drilling of relief well, the top kill methods and protection of sensitive areas, are some issues on which we need to focus, as such an incident may happen at any place in our maritime zones.
- 10. To conclude, I would like to thank M/s ONGC for extending their support in organizing this meeting in Dehradun. I would also like to extend my appreciation to all the resources agencies, who have proactively acted upon the decisions taken during the previous meetings, and taken necessary pollution response and clean-up measures, whenever any oil spill incident has occurred. Let us take this opportunity to work together and implement measures in the larger interest of protecting our marine environment.

Jai Hind.

## Appendix 'B' (Refer para 4)

#### **DISCUSSIONS AND DECISIONS ON OLD AGENDA POINTS**

SI	Agenda	Proposed	Action by
		by	
1	<u>Tier-1 Facilities at MbPT and JNPT.</u>	OISD	COMCG(W)
	Procurement of OSR equipment for having Tier-I	BPCL	JNPT,
	Oil Spill Response facilities by MbPT & JNPT and	MbPT	MbPT
	signing of MOU with ONGC, BPCL and other stake	RHQ (W)	
	holders.		
	Deliberations		
	Deliberations  As no ron from MbDT and INDT was present, the		
	As no rep from MbPT and JNPT was present, the		
	Chairman requested the rep from BPCL who is		
	coordinating the MoU for MbPT to provide the		
	details of the MoU. The BPCL rep intimated that the ONGC has consented to become a member of		
	MoU and the draft MoU has been circulated to		
	members for comments and the finalisation of		
	MoU is expected in Oct this year. He also		
	intimated that the Tier-I maintenance will be		
	outsourced to Service Provider. The Chairman re-		
	iterated that presently there is Oil Spill Response		
	Organisation (OSRO) in India who is qualified to		
	provide professional Tier-I facilities and requested		
	all Ports and Oil Handling Companies to own the		
	PR equipment by themselves in accordance to the		
	decisions taken earlier and the arrangement of		
	hiring of vessels and other mobilization equipment		
	can be made with any service provider. The		
	Chairman also stated that it will be acceptable if		
	MbPT and JNPT would establish a combined Tier-I		
	centre with joint ownership of PR equipment as		
	they share common waters. The chairman		
	directed COMCG(W) to obtain the copy of the		
	draft MoU and provide comments on the model		

	envisaged for implementation.		
	<u>Decision</u>		
	COMCG (W) to coordinate with MbPT and JNPT		
	for early finalization.		
2	Preparation of Local Contingency Plan (LCP)	RHQ (W)	CGHQ
	and the role of District Administration as specified		RHQs
	and brought in the ambit of District oil Spill		
	Disaster Contingency Plan.		
		JNPT	
	<u>Deliberations</u>		
	The Chairman informed that the State		
	Governments are represented by State Maritime		
	Boards or State Pollution Control Board, but most		
	of them do not have the clear mandate, and there		
	is a need that the State Environment Ministry		
	should be approached to prepare the Local Contingency Plan. COMCG (W) and COMCG (E)		
	informed that they made all the efforts with the		
	concerned Environment Secretaries, but there has		
	been no response from the State Governments.		
	The Chairman intimated the Member Secretary to		
	should make a draft SAMPLE LCP and forward to		
	all Regional Commanders, who will in turn		
	coordinate with the respective State Governments		
	for promulgation of the Plan. The Chairman		
	requested the COMCGs to take up directly with		
	the Chief Ministers of the State Governments.		
	<u>Decision</u>		
	(a) CGHQ to prepare Sample LCP and forward to		
	all Regions.		
	(b) COMCGs to coordinate with the respective		
	State Governments to promulgate the LCP.		
3	Need to have Tier-I facilities prior to	RHQ (A&N)	MoEF
	commencing exploration/production	, ,	MoPNG

activity 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-I 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-I response capability or for making arrangements for such OSR.

#### **Deliberations**

The Chairman brought forth the incident at Gulf of Mexico, where the oil spill took place during the exploration phase. The rep from DGH intimated that they had written to all oil companies that they should maintain necessary oil spill response facility during exploration and production phase. The Chairman requested DGH to forward the copy of the letters to CGHQ. COMCG (NW) intimated that the necessary licence for exploration should be given only after establishment of Tier-I facilities. The rep from DGH replied that the exploration stage starts with seismic survey which takes about two years to complete and there are no chances for oil spill during seismic survey and the licence cannot be held up for the requirement of establishing the Tier-I PR facilities. Chairman advised the DGH rep that there are chances of oil spill during drilling phase and necessary safety measures should be established and necessary pollution response capability should be kept ready by oil companies and India being signatory to MARPOL 73/78, the provisions of MARPOL applying for oil rigs should be complied by all concerned.

#### **Decision**

**CGHQ** 

	<ul><li>(a) DGH to forward the copy of letters sent to all oil companies regarding safety audit and maintenance of PR facilities during drilling and production phase.</li><li>(b) OISD to undertake audit, in coordination with Coast Guard, of the offshore installations during the drilling and production phase.</li></ul>		
4	Sunderbans Contingency Plan.  repeated request and active liaison by COMCG (E) the State Administration is yet to formulate the contingency plan. MoEF may be requested to intervene and issue suitable directives to the State Govt.  Deliberations The Chairman intimated that there is a requirement to maintain LCP by the respective State Governments which should include all the sensitive areas of the maritime state. Hence there is no requirement to establish an area wise Contingency Plan such as Sunderbans Contingency Plan and requested the Sunderbans area may be covered under the West Bengal Local Contingency Plan.  Decision Sunderbans Contingency Plan to be integrated with West Bengal LCP.	RHQ (E)	RHQ(E)
5	Oil Spill Response Databank. A databank/	DG	CGHQ
	information with regard to mangroves, corals, marine parks, sanctuaries, turtle nesting areas and other sensitive habitat areas in the Coastal regions to be made available.	Shipping	

#### **Deliberations**

The Member Secretary intimated that the information on data bank has been obtained from the ICMAM-PD and the same has been hosted in the ICG website. The Chairman intimated that the point may be deleted as the action is completed.

#### **Decision**

#### Point to be deleted

6 VIMSAS Audit. Obligation of ICG under MARPOL/OPRC Convention during Voluntary IMO Member State Audit System (VIMSAS).

#### **Deliberations**

The Chairman stated that the Government of India is subjecting voluntarily for auditing the of IMO compliance and implementation conventions to which India is signatory. He enquired the rep of DGS regarding the results of the mock VIMSAS audit conducted by the DGS from 01-04 Jun 10. Capt D Kapoor, DDG (Tech) cum Nautical Surveyor intimated that the mock audit was completed and the results will be sent to all concerned to address the shortcomings. He stated that there has been an overall compliance to all the requirements; however certain issues regarding the investigation carried out by the Coast Guard after an oil spill should be shared with the DGS. The Member Secretary intimated that the Coast Guard is not empowered to undertake investigations, however whatever findings that was made during the oil spill response has been shared with the MoS and DGS being he nodal ministry and departments of the Government of India.

The Chairman enquired about the current

RHQ (A&N) CGHQ DGS

	legislative status regarding the NOSDCP to the DGS rep who stated that the primary and secondary legislation drafting is in progress. The Chairman requested DGS rep that one session needs to be catered with Coast Guard for final preparation for the VIMSAS audit.  Decision  DGS to conduct a separate session with the Coast Guard for final preparation of the VIMSAS audit.		
7	Capacity Augmentation. Capacity augmentation for removal of oil before spillage in water and also from submerged ships.  Deliberations The Member Secretary informed that RHQ (E) has forwarded only few information related to the Salvage operations undertaken to remove the fuel oil from the sunken ship 'MV Black Rose' and requested to forward more information including the video clippings to as to prepare a case model and forward to all major ports for undertaking similar salvage operations. COMCG(E) intimated that they requested Paradip Port Trust to provide the same but they have not been provided with any additional information.  Decision RHQ (E) to pursue with Paradip Port and obtain all relevant material to develop the requisite case model.	DG Shipping	RHQ(E) PPT
8	Prosecution of Polluter. An effective mechanism is to be created by studying various legislations with respect to oil pollution. The present penalties in the MS Act 1958 are to be enhanced by a suitable amendment. Further SOPs	DG Shipping	DGS

are to be promulgated for effective prosecution of defaulters on obtaining concrete evidence, through samples, pictorial documents etc.

#### **Deliberations**

Member Secretary intimated that in accordance to the directives given by DGICG during the last NOSDCP meeting, the DGS has convened a committee headed by Nautical Surveyor of DGS with members drawn from ICG, Ports, ONGC, Maritime Boards, Indian Ports Association (IPA) and Indian National Shipowners Association (INSA). The committee is to submit the report by 31 Mar 2010, however, the committee further deliberated on legislative requirements in May and Jun 10. The rep from DGS intimated that the report has been completed and awaiting the final approval of DGS prior submission of the report to the CGHQ. He also intimated that the Committee also looked into the NOSDCP and stated that the NOSDCP has the blend of both the Plan and the Guideline and suggested that the NOSDCP should have the Plan portion only. The Member Secretary intimated that the amendment of the NOSDCP is in progress and the NOSDCP will be oriented with the Plan provisions only.

#### **Decision**

DGS to submit the report to Coast Guard at an early date.

9 Classification of Oil Spill Response
Organisation (OSRO) and Inclusion in NOSDCP. The pollution response rules, regulations and practice need to be made more stringent in order to subject the users of OSD with more liability and responsibility. Introduction and classification of OSRO employed by stake holders,

will provide tremendous opportunity for private players and bring professionalism for pollution response. The OSRO can be inspected by the Indian Coast Guard for classification. The classified OSRO can then be listed on national response resource inventory on CG Website.

#### **Deliberations**

The Member Secretary brought out information relating to the current practices adopted by certain Ports and oil handling agencies and it has been found that the service providers do not possess their own equipment and there is no information available regarding their training level and expertise. The Chairman intimated that the current service providers in India could not be categorized as proper OSRO and till such time the OSRO have the necessary expertise and own pollution response inventory. He directed that this point to be considered when proper OSRO is developed in India.

#### **Decision**

Point to be deleted.

#### 10 Utilization of Assets of Littoral States.

Andaman & Nicobar Islands are a group of 572 islands, with 03 major SLOCs passing through it. Also, the 6 degree channel carries bulk of oil. However, any type of marine pollution, which may take place in the Andaman sea can have a better and quicker response from the pollution response agencies of the littoral states, because of their proximity to the Andaman and Nicobar Islands. It is recommended that Pollution Response facilities available with the south east littoral states be explored and a MoU be signed.

#### RHQ (A&N) MoES

#### **Deliberations**

The Member Secretary intimated that the Coast Guard requested MoES to consider this case and approach the East Asia Seas Programme for inclusion of A & N islands under their Response Plan in addition to being part of the SACEP Plan. The rep from MoES stated that the inter-regional agreement can be made between the two Regional Seas Programme. However, he stated that this can only be made once the SACEP plan is operationalised. Chairman directed the rep from MOES to progress the case at the earliest.

#### **Decision**

MoES to progress the case for inter-regional agreement for inclusion of A&N islands in both the Regional Seas Programme.

11 Chemical Pollution. Combating oil pollution is one of the charters of Coast Guard. However, with the increased shipping activities along Indian coast/ports, pollution from harmful Noxious Liquid Substances is not ruled out, as it would transform into a major threat to environment. Hence, there is a need to have a policy charted out under NOSDCP for combating pollution from Noxious Liquid Substances.

#### **Deliberations**

The Member Secretary intimated that the Coast Guard to a proposal made by the Ministry of Shipping, had stated that due to lack of manpower, expertise and the necessary specialized equipment, the Coast Guard will not be able to undertake the coordination measures for HNS. The rep from Chennai Port intimated that the task for HNS response inside the Ports, should not be left to the Port alone and should include

## RHQ (A&N) CGHQ and OISD

	the importer or manufacturer who has the necessary expertise to deal with HNS. Chairman stated that the Coast Guard is not fully prepared to deal with HNS at present and recommended for deletion of this point.  Decision  Point to be deleted.		
12	Sensitive Areas along the Coast and High Sea for use of Dispersants. Coast Guard or	ONGC	MoEF CGHQ
	appropriate agency in Government of India may notify sensitive areas along the coast and in high sea for use of dispersants.		
	<u>Deliberations</u> The Member Secretary intimated that the Coast		
	Guard approached MoES for declaring the 'No-OSD Use Zone' in the sensitive areas, but they		
	have intimated that they don't have the authority for promulgation. The rep from MoES intimated		
	that the Coast Guard should approach Ministry of Environment and Forest for promulgation and		
	they would provide necessary information regarding the sensitive areas.		
	Decision  CCHO to approach MoEE for promulgation of (No.		
	CGHQ to approach MoEF for promulgation of 'No OSD Use Area' along the coastal areas in India.		
13	System of Surveillance for Leakage from Oil	OISD	OISD
	<b>Exploration &amp; Transportation</b> . Discharge from operating ships, discharge 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.

#### **Deliberations**

The Member Secretary intimated that the Coast Guard aircraft is fitted with new sensors to identify oil pollution in all weather conditions and they have successfully identified minor spills near ODA recently. He also intimated that the Coast Guard written a letter to MoEF and MoPNG/OISD to consider establishment of oil spill fingerprinting laboratory to identify the unreported spill source. The MOEF has responded by stating that their Scientific Laboratories are not equipped with the necessary equipment, but if any agencies provide them with such equipment, they would undertake the necessary test. OISD has not provided any response and stated that the matter is under consideration.

#### **Decision**

OISD to provide information to Coast Guard regarding the establishment of Oil Fingerprinting Laboratory.

Oil terminal Operators Insurance Limit.

Coast Guard to specify the oil terminal operators insurance limit as they are not governed by any international treaties.

#### **Deliberations**

The Member Secretary intimated that the Oil Companies in India, maintain Insurance limits upto the tune of USD 100 million through Foreign Insurance Companies and also stated that there is no national or international legislation which prescribe the liability and compensation limits. The Oi/C PRT (East) intimated that the US Oil Pollution Act 1990 prescribes various liability and

M/s Essar, Vadinar CGHQ MoPNG compensation limits and India should establish similar legislation. The rep from DGS intimated that US is not a party to CLC or Fund Convention and OPA 1990 is a standalone legislation and does not have any backing from any international legislation. The Chairman directed that more indepth study of the insurance pattern need to be made and recommendations to be made to MoPNG to address the issue.

#### **Decision**

- (a) More in-depth study to be undertaken by Coast Guard.
- (b) Issue to be taken up with MoPNG.

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

SI	Agenda	Proposed by	Action by
1	Activation of a Dedicated NOS-DCP	COMCG (NW)	CGHQ
	website. Hosting of a dedicated website on		
	NOSDCP is proposed. The website to include		
	details of available response equipments		
	items with resource agencies and stake		
	holders including their capabilities and		
	limitations. This will facilitate speedy		
	reference and dissemination of information		
	as well as pooling of resources from nearby		
	sources in case of an oil spill.		
	Delihanations		
	Deliberations The Chairman intimated that erection of		
	The Chairman intimated that creation of		
	separate NOSDCP website require constant attention for updating and require a		
	attention for updating and require a dedicated team to maintain such website. He		
	suggested that instead of separate website,		
	a separate page on NOSDCP is to be created		
	in the Indian Coast Guard website and		
	necessary information will be made available		
	on such page.		
	on saon page.		
	Decision		
	A Separate webpage on NOSDCP is to be		
	created in the ICG website.		
2	Action on Oil Spill Report. RHQ	FODAG,	DGH/OISD
	(W)/CGAS (Daman) have been making	Mumbai	
	number of reports regarding oil spills from		
	ONGC platform in the Western Offshore		
	region. On all occasions, HQ FODAG has		
	asked ONGC to investigate the matter and		

report results. By and large, ONGC has denied existence of any oil spill in the specified area. Only on few occasions they had accepted that minor spills have been caused due to leaking pumps. In the absence of evidence and an independent verification mechanism, no further actions have been taken. It is recommended that SOP for pollution response be promulgated and agencies involved be directed to take prompt and appropriate actions in this regard.

#### **Deliberations**

The rep from FODAG intimated that the Coast Guard Dornier aircraft had made 34 reports of minor oil spill in the last 6 months and the same was intimated to DGH and OISD but no further action thereafter is known to FODAG. The rep from DGH intimated that DGH has initiated action to undertake suitable measures against the violators and the same will be intimated to all concerned. The Chairman requested the DGH and OISD to undertake thorough audit of the safety system of the offshore oil installations.

#### **Decision**

DGH/ OISD to take suitable action against erring offshore installation operator.

#### Point to be deleted

Coastal Bio-Shield. The growth of trees vegetation on coastline acts as bio-shield from natural fury. Hence there is a need to grow trees along the coastline to act as bioshield for protection of our coasts.

#### COMCG(A&N) | ALL RHQs

Plantation of Casuarinas, Saliconnia, Palms, Bamboo and Hatrophytes trees, which grow close to sea areas, can be considered by the oil industry. These would serve as the speed breaker in event of oil slick, natural disaster and limit the damage to our ecosystem.

#### **Deliberations**

The Chairman welcomed the idea of creating coastal bio-shield so that those trees may provide the first line of defence. The rep from MoES intimated that instead of trees, the marsh grass and weeds can also be planted near the coastal areas as they provide better protection. The Chairman, however, stated that to undertake the tree plantation drive, the State or grass Governments and the NGOs are more suited to support this initiative than the NOSDCP forum. He requested the Coast Guard Regional Commanders to liaise with respective State Governments and NGOs for creating the Coastal Bio-Shield.

#### **Decision**

All Regional Commanders to liaise with the State Governments and NGOs for creating coastal bio-shield.

# 4 Setting of Satellite Based Pollution Monitoring Centers. Presently, there are no dedicated pollution monitoring centers in India. It is proposed that three pollution monitoring centers be activated at Mumbai Chennai and A&N. The pollution monitoring centers shall have the following facilities:-

#### (a) Monitoring of Maritime zones of India

#### COMCG (East) | CGHQ

for any pollution, through India Geo Satellite.

- (b) Sample testing laboratories for testing of spilt oil.
- (c) Installations of software for predicting the behavior of oil spills.
- (d) Workstations for the resource agencies.

#### **Deliberations**

The OI/C PRT (East) intimated that a dedicated pollution monitoring centre is essential to monitor the large EEZ areas through aircraft and satellite based monitoring system. The Chairman intimated that though he welcomes the idea of dedicated pollution monitoring centres in India, it is futuristic and requires expertise, additional manpower, specialized equipment and data management. He however stated that further studies on satellite based monitoring needs to be made, so that the satellite data can be effectively used for tracking the oil spill and also to identify the polluter.

#### Decision

The monitoring of oil spill will be undertaken from the Coast Guard Operation Centres and CGHQ to liaise with Space Application Centre, ISRO for obtaining satellite data for oil spill tracking.

Exercise with Neighboring Countries.

Presently, ICG is organizing Pollution
Response Exercises within India only, to
check the efficacy of pollution response
mechanism of various stake holders and

## COMCG (West)

**CGHQ** 

of demonstrate the correct way operations. With increase of shipping traffic globally, the inherent problems are likely to increase manifold. Indian Coast Guard, being nodal agency for pollution response in Indian waters, has a vast are of operation and a need may arise to involve/provide assistance adjoining countries during pollution incidents. Further working, capabilities and equipment/resources held with neighboring countries need to be known for effective utilization of resources and timely response in case of multi nation operation. It is, therefore proposed that а bi-annually Pollution Response Exercise may organized in coordination with neighboring countries, along with stake holders/ participants improve regional to COordination.

#### **Deliberations**

The Member Secretary intimated presently the SACEP Regional Plan has a requirement of undertaking annual pollution response exercises with the SACEP members such as Bangladesh, Maldives, Pakistan and Sri Lanka and recommended that further commitment with other neighboring countries will severely affect the operational availability of Coast Guard Ships for other commitments. The Chairman advised that the proposed point may not be taken up, till such time the SACEP issues are addressed.

#### **Decision**

Point to be deleted.

6 Preparedness for Large Scale Oil Spill. CGHQ/ONGC CGHQ

The recent incident in Gulf of Mexico indicates that a major oil spill from well heads and oil rigs is a possibility and can occur without any warning. The large oil companies have PR equipment to cater for Tier-I spills and have tie-up with OSRL for large size spills. In the event of uncontrolled oil discharge from oil rigs and platforms, a large scale mobilisation of PR equipment at short notice is inescapable. The current inventory of CG and other resource agencies PR equipment is considered insufficient. While importing the PR equipment by the polluter, the speedier customs and security clearance plays a vital role. The SOPs given in NOSDCP is silent on the role of Customs for speedier clearance of the PR equipment.

#### **Deliberations**

The Chairman intimated that presently all Ports and Oil handling agencies are required to maintain tier-I facilities on their own. He also stated that the availability of suitable PR equipment for large scale PR operations is lacking and the Coast Guard contemplating to enter into MoU with a reputed OSRO for providing the Tier-II level cover and the Tier-III will be mobilized through the international OSRO as and when required as the situation warrants coordination with the insurers of the polluting ship or offshore installation.

#### **Decision**

CGHQ to analyse the suitable model for establishing the necessary Tier-II centre in India in coordination with OSRO.

7 Present position of Tier – I response

**DG Shipping** 

**CGHQ** 

#### equipment in Ports & Terminals. **Deliberations** The Member Secretary intimated that the present position of Tier-I response equipment in Ports and Oil Terminals are available in NOSDCP and stated that the updated NOSDCP being prepared shortly will reflect the PR equipment of non major ports also. The Chairman also stated that the NOSDCP web page will also have the necessary details and everyone can have ready access to such information. **Decision** Details to be updated in NOSDCP Point to be deleted. Ports Reception Facilities - Current **DG Shipping CGHQ** position **Deliberations** The Member Secretary intimated that this point is sufficiently discussed during the earlier NOSDCP meetings and the mandate is provided to DGS and MMD to take suitable action. The DGS rep intimated that this point was raised to intimate that DGS has undertaken inspection of all 13 major ports and necessary secondary legislation has been made by DGS regarding the Port Reception Facilities. **Decision** Information noted and Point to be deleted

9	Present position of Maritime and Port	DG Shipping	DGS
	Legislations with respect to response.		
	Deliberations  The rep from DCS intimested that the Study.		
	The rep from DGS intimated that the Study Group has deliberated the legislation issues		
	and recommendations are being made for		
	establishing secondary legislation (MS		
	Rules) for MS Act 1958 which pertains to		
	marine pollution. The Chairman requested		
	the DGS rep to forward the Study Group		
	report to Coast Guard at the earliest.		
	Docision		
	Decision  DGS to forward the Study Group report to		
	Coast Guard and point to be deleted.		
10	Comparative study of Statistics on Oil	DG Shipping	DGS
	Pollution reported and investigation		CGHQ
	conducted		
	<u>Deliberations</u>		
	The DGS rep intimated that the Oil Spill		
	investigation carried out by the Coast Guard		
	should be shared with the DGS regularly so		
	that a suitable information is sent to IMO		
	regarding the oil spill incident. The Member		
	Secretary informed the DGS rep that all		
	incident report pertaining to oil spill,		
	including the notice sent to the polluters are sent to MoS and DGS. In addition, a		
	quarterly oil spill incident report is also being		
	forwarded regularly. The Chairman		
	intimated that ICG is not included as part of		
	intimated that ICG is not included as part of the newly formed Maritime Casualty		

	maritime accidents and incidents at sea.		
	Decision		
	DGS to consider inclusion of Coast Guard		
	Member in the MCIC.		
11	SOP for dealing with defaulters	DG Shipping	DGS
	<u>Deliberations</u>		
	The rep from DGS intimated that the SOP for		
	dealing with defaulters is not given in any		
	document and the NOSDCP contains the		
	SOP for Oil Spill Cleanup and Response. The		
	Chairman requested the DGS rep to establish		
	the SOPs for defaulters as the powers to		
	punish the defaulters are held by Central		
	Government under the MS Act 1958.		
	Decision		
	DGS to establish the SOPs for dealing with		
	defaulters. Coast Guard to provide		
	assistance for drafting.		
12		DG Shipping	CGHQ
	Area covered by Ports, Maritime Board		
	and Coast Guard		
	<u>Deliberations</u>		
	The Member Secretary intimated that the		
	charter of duties with respect to area		
	covered by Ports, Offshore Operators and		
	Coast Guard is given in the gazette		
	notification dated 12 Dec 2002, amending		
	the GoI (Allocation of Business) Rules 1961.		
	The State Governments will be responsible		
	for clean-up of oil spill that affect their		
	shorelines. The Chairman enquired the DGS		
	rep, if there is any specific information		
	required regarding the charter of duties. The		
	DGS rep intimated that he received the		
		<u> </u>	

	relevant information from the Coast Guard.		
	<u>Decision</u>		
	Point to be deleted.		
13	<u>Utilisation of Oil Cess</u>	DG Shipping	MoS DGS
	<u>Deliberations</u>		
	The rep from MOs intimated that they had		
	raised this point at the NOSDCP meeting to		
	intimate that the MoS is planning to utilize		
	the Oil Cess Fund to procure two Pollution		
	Response Barges to cater for the		
	requirement of major ports. The Chairman		
	enquired about the amount available in the fund, to which the MoS rep intimated that		
	about Rs. 25 Crores is available. The DGS		
	rep intimated that the Oil Cess is collected		
	by MoS in accordance to provisions of MS		
	Act and the funds collected is not kept		
	separately and gets deposited with the		
	Consolidated Fund of India. The Chairman		
	requested the DGS rep to provide a		
	presentation on Oil Cess during the next		
	NOSDCP meeting so that the utilisation of Oil		
	Cess can be better understood and actions		
	required for addressing oil spill response can be made accordingly.		
	Do made adderantgry.		
	<u>Decision</u>		
	DGS rep to make a presentation on Oil Cess		
	during the next NOSDCP meeting		

Appendix 'D' (Refer para 5)

## OVERVIEW BY DIRECTOR (FE) 15<sup>TH</sup> NOS-DCP MEETING

#### GOOD MORNING LADIES AND GENTLEMEN.

I WILL BE CONVENING THE NOSDCP OVERVIEW UNDER THE FOLLOWING **HEADINGS: -**

- NOS-DCP POLICY ISSUES
- OIL SPILL INCIDENT
- REGIONAL ACTIVITIES
- OTHER ISSUES OF INTEREST

#### **POLICY ISSUES**

NOS-DCP IS THE NATIONAL PLAN WHICH DELINEATES THE RESPONSIBILITIES OF VARIOUS RESOURCE AND OIL HANDLING AGENCIES. NOS-DCP HAS BEEN CREATED AS ALTERNATIVE TO NATIONAL SYSTEM WHICH SHOULD HAVE FOLLOWED FROM A NATIONAL LEGISLATION. NOS-DCP HAS BEEN APPROVED BY COMMITTEE OF SECRETARIES AND ALLOCATION OF BUSINESS RULE 1961 HAS BEEN AMENDED ACCORDINGLY. THIS IS THE NATIONAL DOCUMENT TO DEAL WITH OIL SPILL RESPONSE CO-ORDINATION. IT PROVIDES THE MOST ECONOMICAL SOLUTION BY POOLING IN OF RESOURCES AND INTEGRATING THE CAPABILITY AVAILABLE WITH OTHER AGENCIES FOR NATIONAL CAUSE.

THE OIL SPILL CAUSED BY DEEP WATER HORIZON IN GULF OF MEXICO HAS GONE OUT OF CONTROL. THE FACT SHEET OF THE OIL SPILL AND THE RESPONSE ACTIVITIES IS AS SHOWN ON THE SLIDE.

GULF OF MEXICO OIL SPILL WILL BE COVERED IN DETAIL IN PRESENTATION BY COMMANDANT DONNY MICHAEL.

AT PRESENT, OIL SPILL RESPONSE RESOURCES MAINTAINED BY THE RESOURCE AGENCIES ARE NOT FOUND SUITABLE FOR OFFSHORE USE. THE GULF OF MEXICO SPILL HAS SHOWN THAT UNLESS ADEQUATE RESOURCES ARE KEPT IN PLACE, LARGE SCALE DELETERIOUS EFFECT TO THE MARINE ENVIRONMENT IS UNSTOPPABLE. THE LARGE COASTLINE OF INDIA, POPULATED WITH FISHERMEN WILL BE MOST SEVERELY AFFECTED AND BESIDES BECOMING A POLITICAL PROBLEM, COST OF CLEAN-UP WILL RUN INTO SEVERAL CRORES.

#### OIL SPILL INCIDENT

TWO POLLUTION INCIDENCES HAVE TAKEN PLACE IN THE EAST COAST:

- UNREPORTED OIL SPILL IN SOUTH CHENNAI.
- OIL SPILL FROM MV MALVIKA OFF GOPALPUR.

MV MALAVIKA WAS AT GOPALPUR ANCHORAGE. A BARGE "SNEH IV" DEMAGED MV MALAVIKA FUEL TANK NO. 4 BY RUPTURING SHIP'S HULL FOUR METERS ABOVE WATER LINE WHILE CASTING OFF. APPROXIMATELY EIGHT MT OF FUEL OIL HAS SPILLED.

A QUICK RESPONSE TEAM OF GOPALPUR PORT AND ESSAR SHIPPING WERE SENT TO DAMAGED VESSEL TO ASSESS THE SITUATION. A COAST GUARD TEAM WAS ALSO DEPUTED TO ASSIST GOPALPUR PORT. A DORNIER AIRCRAFT AND ONE COAST GUARD SHIP WERE ALSO DEPLOYED TO ASSESS

THE SPILL. ABOUT ONE AND HALF KM OF SHORE LINE FROM **PURNABANDHA**TO **GOKHARKADA** WAS FOUND CONTAMINATED WITH SPILLED OIL.
FLOATING OIL IN THE SEA AT A STRETCH OF 200 MTRS WAS FOUND. THE OIL CONTAMINATED SAND WAS REMOVED BY THE SHORE LINE CLEANING PARTY BY SCRAPING AND WAS KEPT FROM THE HIGH TIDE LINE FOR DISPOSAL ABOUT 100 LABOURERS WERE ENGAGED FOR THIS WORK.

#### **REGIONAL ACTIVITIES**

TO HAVE A BETTER CO-ORDINATION AND WORK CULTURE AMONG OIL HANDLING AGENCIES AND GOVERNMENT ORGANISATION, VARIOUS ACTIVITIES WERE CONDUCTED TO TRAIN PERSONNEL ON POLLUTION RESPONSE.

19 PERSONNEL WERE TRAINED IN IMO LEVEL I COURSE. A MOCK DRILL AND LEVEL I POLLUTION RESPONSE EXERCISE WAS CONDUCTED AT VADINAR.

21 PERSONNEL WERE TRAINED IN IMO LEVEL I COURSE. MOCK DRILL AND POLLUTION RESPONSE SEMINAR WAS ALSO CONDUCTED AT MUMBAI.

IMO LEVEL I TRAINING AT CHENNAI, VISHAKHAPATNAM AND PARADEEP ALONG WITH LEVEL I POLLUTION RESPONSE EXERCISE WERE CONDUCTED. A POLLUTION RESPONSE SEMINAR WAS CONDUCTED AT TUTICORIN.

A MEMORANDUM OF UNDERSTANDING IS SLATED TO BE SIGNED WITH AMET UNIVERSITY FOR CONDUCT OF IMO LEVEL II COURSE.

IMO LEVEL II COURSE IS SCHEDULED AT AMET UNIVERSITY AT CHENNAI FROM 26 JUL TO 30 JUL. I REQUEST ALL RESOURCE AGENCIES TO SEND THEIR EMPLOYEES AND TRAIN THEM IN POLLUTION RESPONSE.

300 TONS OF OIL WAS RETRIEVED FROM MV ASIAN FOREST WHICH WAS GROUNDED OFF MANGALORE ON 19 JUL 2009. DG SHIPPING ALONG WITH STATE GOVERNMENT AUTHORITIES OF KARNATAKA PLAYED AN IMPORTANT ROLE BY DETAINING THE CREW OF THE VESSEL WHICH FORCED THE OWNER AND PI CLUB TO INITIATE ACTION TO REMOVE THE TRAPED OIL.

#### **ISSUE OF INTEREST**

THE COAST GUARD ENVIRONMENT AWARD GUIDELINES HAS BEEN ISSUED IN APR 2010 AND PLACED AT INDIAN COAST GUARD WEBSITE. THE APPLICATION HAS BEEN SENT TO ALL OIL COMPANIES. THE LAST DAY FOR RECEIPT OF APPLICATION IS 30 JUN 10. THE SITE INSPECTIONS WILL BE IN JULY AND AUGUST. THE AWARD WILL BE PRESENTED DURING THE 16<sup>TH</sup> NOSDCP MEETING. I REQUEST ALL RESOURCE AGENCIES TO APPLY FOR THE AWARD.

THANKING YOU.

Appendix 'E' (Refer para 8)

#### **PROGRAMME**

## 15<sup>TH</sup> NATIONAL OIL SPILL DISASTER CONTINGENCY PLAN (NOS-DCP) & PREPAREDNESS MEETING

#### 18 JUN 2010

SL	TIME	EVENT
1802	1000	Delegates arrive & Registration
1804	1030	Tea
1806	1055	Chairman Arrives
1808	1100	Welcome Speech by the Executive Director (HSE), ONGC
1810	1105	Inaugural Address by the Chairman, NOS-DCP
1812	1115	Special talk by Mr. Hazarika, Director (Onshore), ONGC
1814	1130	Overview of NOS-DCP by Director (FE), CGHQ
1816	1140	Presentation on "Deepwater Horizon Oil Spill Response at Gulf of Mexico, USA" by Commandant Donny Michael, Joint Director (FE), CGHQ
1818	1155	Presentation on "Floating Production Storage and Offloading (FPSO) platforms" by Dr. PK Pant, Sr. Vice-President HSE, Reliance Industries, Mumbai
1820	1210	Presentation on "Oil Finger Printing and Identification of Polluter" by Dr. JS Sharma, Deputy General Manager (Chem.), ONGC, New Delhi
1822	1230- 1415	Review of Old Agenda points and discussion on New Agenda points.
1824	1415	Closing Address by Chairman, NOS-DCP
1826	1430	Lunch

<u>VENUE</u> : KDM INSTITUTE OF PETROLEUM & EXPLORATION

KAUALGARH ROAD, DEHRADUN

DRESS : NO. 8As FOR SERVICE OFFICERS

## Appendix 'F' (Refer para 8)

## 15<sup>th</sup> NATIONAL OIL SPILL DISASTER CONTINGENCY PLAN (NOS-DCP) AND PREPAREDNESS MEETING - 18 JUN 2010

#### **PARTICIPATION LIST**

<u>SI.</u>	<u>Name</u>	<u>Designation</u>	<u>Organisation</u>
01	Vice Adm Anil Chopra, AVSM	Chairman	Indian Coast Guard
02	IG SPS Basra, YSM,PTM,TM	COMCG (West)	Indian Coast Guard
03	IG A Rajasekhar, PTM,TM	COMCG (East)	Indian Coast Guard
04	IG SP Sharma, PTM, TM	COMCG(North West)	Indian Coast Guard
05	IG KC Pandey, TM	COMCG (A&N)	Indian Coast Guard
06	IG VSR Murthy, TM	DDG(Ops & Cs)	Indian Coast Guard
07	DIG GP Raj	Oi/C PRT (East)	Indian Coast Guard
80	DIG AKS Chauhan, TM	CLO	Indian Coast Guard
09	Commandant SD Sonak	Oi/C PRT (West)	Indian Coast Guard
10	Commandant SK Singh	Oi/C PRT (A&N)	Indian Coast Guard
11	Comdt A Athinarayanan	Secy NOS-DCP	Indian Coast Guard
12	Comdt Donny Michael	Joint Director (FE)	Indian Coast Guard
13	Cdr Atul Kulkarni	NA to DGICG	Indian Coast Gaurd
14	Shri A.K. Singh	Deputy Director (E)	DGLL
15	Cdr PS Bist	JDNO	DNO,IHQ /MoD
16	Shri. HN Aswath	Director (Engineering)	Ministry of Shipping
17	Dr. BR Subramanian	Project Director & Scientist 'G'	ICMAM-PD/MoES
18	Shri OP Banwari	Under Secy	MoPNG
19	Shri Paritosh Kumar	Sr. Env. Engineer	CPCB, New Delhi

20	Mr Suresh Purohit	Manager & Dy. PFSO.	Mundra Port & SEZ Ltd.
21	Shri Vizesh Rana	DC (DM)	MHA
22	Shri Kishor Kumar Darad	Head Environment	DGH
23	Shri Kripal Singh	Head Drilling	DGH
24	Capt HPS Sodhi	Director (Plans)	FODAG
25	Sh. Sashi Vardhan	Addl Director (Env)	OISD
26	Sh Sunil K Kakar	Port Manager	Shell India
27	Capt Deepak Kapoor	Nautical Surveyor-cum- DDG	DG Shipping, Mumbai
28	Shri Sunder Ramanathan	Dy. Director	Ministry of Environment & Forest, New Delhi
29	Dr. JS Sharma	DGM- Chemistry	ONGC
30	Shri PK Prasanth	Manager (ME)	Ennore Port Ltd.
31	Shri Paul Joseph	Manager(E&E)	BPCL Kochi Refinery
32	Capt. Pradeep Ramachandran	Pilot	Krishnapatnam Port Company Ltd
33	Capt. Harish Abbey	Sr. GM, Marine	Reliance Port & Terminal Ltd, Jamnagar
34	Shri Ajay M Patel	Manager(QHSE)	GSPC
35	Capt. H.K. Sibal	Dy Conservator	Kandla Port Trust
36	Shri Sanjay Sinha	Sr. Manager	Reliance India Ltd
37	Col S Satyam	Sr. Manager	Reliance India Ltd.
38	Dr. PK Pant	Sr. VP HSE	Reliance India Ltd.
39	Shri Sarang Deshar	A.M. (Mech)	BORL
40	Shri S.N. Mukherjee	Chief Manager Safety	BPCL, Mumbai refinery
41	Shir Sujit Chaudhuri	GM - HSSE	BG Exp India Ltd.
42	Capt. Alok Kumar	Dy. General Manger	Essar
43	Capt. Manoj Garg	Maritime Technical Advisor	Shell India
44	Shri Anil Phukat	Manager-SHE	HPCL, Mumbai

45	Shri RK Trivedi	Manager- CL	ONGC
46	Shri VK Jain	Sr. HRE-CC	ONGC
47	Shri A Chopra	Chief Chemist	ONGC
48	Capt P Singh	Harbour Master	Murmugo Port Trust
49	Capt S Mehta	Dv Conservator	Chennai Port Trust