BLUE WATERS

Newsletter

On Marine Environment Security

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Conservation of Coastal Zone Environment




A Publication of the Indian Coast Guard

From the Director General's Desk

1. There is a growing concern today for our environment and a genuine fear that if we do not change our ways right now, the damage we will inflict on our coastal ecosystem and sensitive shorelines will render it incapable of sustaining for future use and cause irreversible damage.

2. The environmental credentials of every country and industry are now under sharper scrutiny than ever before. The pressure is mounting on every potential polluter, every user of energy and every conspicuous contributor to climate change and global warming to clean up their act and adopt greener practices. The ports and oil handling facilities and other stakeholders of the oil industry are no exception to such scrutiny. Towards this effort, the Indian Coast Guard has taken the lead role for establishing contingency plans for ports, oil handling agencies and the State Governments by providing valuable guidance.

3. The Indian Coast Guard on its part will continue its measures to conserve and protect Olive Ridley turtles. Indian Coast Guard has also embarked on various programmes and campaigns for beach cleaning, litter free coast and environment awareness through regular community interactions as also actively participating in "Coastal clean up days". We plan to give fresh impetus to our role for marine environment conservation in a much bigger way for a better tomorrow.

4. I request all the readers to continue their support to our collective efforts in preserving our coastal marine environment.

(RF Contractor)
Vice Admiral
Director General
Indian Coast Guard

New Delhi
07 Aug 08

Editorial

1. The Indian Coast Guard is the competent authority that responds to pollution that occurs in the maritime zones from shipping and offshore installations. The port areas and the oil handling terminals have to establish their own pollution response system under the MoS and MoPNG notification and in accordance to the allocation of business rules. The Indian Coast Guard is regularly called upon to react to a wide range of maritime incidents and have developed a comprehensive response procedure to deal with any emergency at sea that causes pollution, or threatens to cause pollution.

2. The NOS-DCP provides the command and control procedures for incident response and these procedures have built-in thresholds to allow for flexibility of response to different degrees of incident. However, the maritime environment are dynamic in nature and the spills are subjected to various types of movement and dispersion which if not responded to in time causes considerable problems and any amount of response measures initiated after the lapse window of opportunity would not yield the desired result and the effects of environmental damage and the financial implication would be very high.

3. Preventive measures like establishing contingency plans, identifying the sensitive areas, training to personnel and placement of tier-I response equipment around port and oil handling terminal areas would certainly help in taking appropriate first aid measures till such time some competent oil spill removal organisation or Indian Coast Guard to step in when the situation goes beyond control.

4. This issue of Blue Waters has been focused on coastal zone conservation measures as the Central Government has issued draft Coastal Zone Management 2008 notification which is oriented for enhanced conservation of coastal zones.

5. We thank all the contributors to this edition of Blue Waters and solicit your continued cooperation in providing articles and materials to enhance the Blue Waters commitment to marine environment protection.

(Donny Michael)
Commandant
Joint Director (Environment)

CONTENTS

ARTICLES

POLLUTION CLOUDS OVER INDIAN OCEAN REGION

N Balaji, U/Nvk(AL), 04706-W, 842 Sqn(CG)

A recent scientific investigation has identified a huge cloud of atmospheric pollution covering some 10 M SQ Km of the Indian Ocean-an-area approximately the size of the United States. The unusual haze was discovered as part of the Indian Experiment (INDOEX), which is investigating how pollutants are, carried though the Indian Ocean.

The findings, released by the US National Science Foundation on June 8, will provide scientists an opportunity to investigate the impact of industrial pollution on the world's climate. It will also give a further insight into the quality and types of emissions being pumped-out of factories on the Indian subcontinent, in China and South East Asia.

Scientists stumbled upon the pollution cloud during an intensive six-week field experiment from February to March this year. The region under investigation covers most of the northern Indian Ocean, including the Arabian Sea, much of the Bay of Bengal and equatorial Indian Ocean. The field experiment involved scientists from the United States, Europe, India and the Maldives, incorporating the use of four research aircraft, two oceanographic ships, several surface stations, balloons and a wide rage of satellites.

The team discovered that the dense, brown haze of pollution extended from the ocean surface to altitudes of one to three kilometers. The co-chief scientist of the investigation, Dr. Veerabhadran Ramanathan said the scientists were shocked by the extent of pollution they encountered. He said: "It appeared as if the whole Indian Ocean was surrounded by a mountain of pollution". In fact, the cloud rose to about 10,000 feet from the earth's surface, whereas similar clouds found previously only upto 2,000 feet.

The haze is caused by high concentrations of very small chemical particles, no bigger than a few micrometers in diameter, also known as "aerosols". These "aerosols" are made up of soot, sulfates, nitrates, organic particles, fly ash, mineral dust and gases, including carbon monoxide and sulfur dioxide. It has long been acknowledged that similar pollution hazes are produced in the world's main industrial centers, the United States and Europe. Aerosol-type pollution hazes are characterized.

Pollution and Ecosystem Health

Current fishing methods have resulted in the over exploitation of coastal resources such as sardines, prawns, pomfrets and mackerel. However, most of the fish stocks breed in deeper offshore waters so these in an opportunity to rebuild stocks. The overexploitation is mostly due to large fishing vessels that fish illegally near

the coast. The market price for these species appears to be the driving factor for this overexploitation. Population expansion especially in India will continue to put pressure on coastal resources. For this reason, there is an urgent need for a long term plan for the conservation and management of the Large Marine Ecosystem (LME). This population pressure also creates major pollution problem, like untreated organic waste and sewage, which contribute to the nutrient loading of near shore areas.

Nutrient loading influence productivity cycles and depletes dissolved oxygen supplies. Rapid industrialization is also contributing pollution from industrial wastes and industrial effluents. Heavy metal such as cadmium, by being highly dense, often creating an open visibility of less than 10 kilometers.

The INDOEX team said the characteristic darkness of the Indian Ocean cloud made it a unique finding. The marked darkness is thought to be due to the presence of huge other words, these wastes have most likely come from areas surrounding the India subcontinent with growing industrial outputs, and little in the way of pollution controls on factory emissions.

Scientists believe that the haze floats over the Indian Ocean during wintertime because it is swept down via prevailing winds from the Himalayas and out to sea during the winter monsoon. During the monsoon, scientists suspect that the reverse takes place. That is, wind currents, opposite to those in winter, drive the cloud back onto the acid rain.

Further investigations are taking place into the effect of the pollution haze on cloud properties as a whole and thus on weather. Scientists will estimate the impact on the concentration of cloud droplets, the developments of rainfall and cloud brightness.

It has long been understood that greenhouse gases like carbon dioxide trap the sun's heat, resulting in an increase in the earth's temperature. The effect of the chemicals that make up aerosols is the opposite. The aerosol particles act like tiny mirrors scattering sunlight back to space and causing a regional cooling effect. Aerosols can also have an indirect cooling effect by the acting as seeds for cloud condensation and thus increasing their reflectivity. In other words, the aerosol particles

cause clouds to absorb less of the sub's radiation, forcing it to be reflected back into space. In the Indian Ocean study, the haze particles reduced solar radiation absorbed by the ocean surface by as much as 10 percent.

Scientists are still unsure of the overall effect of both "heating" and "cooling" particles and gases on the environment, Greenhouse gases can persist in the atmosphere for decades, which aerosols can be quite easily removed by rain in a matter of days. But the process whereby aerosols affect clouds and solar radiation is highly complex, and not yet well understood. Jay Fein, program director of the UN National Sciences Foundation, a part sponsor of the INDOEX project, explained that "the effect of aerosols in out atmosphere radiation balance is one of the largest sources of uncertainty in predicting future climate. INDOEX was designed to reduce this uncertainly".

The Indian Ocean haze is likely to harm the tropical marine life in its immediate vicinity, due to its transformation into acid rain. Furthermore, a reduction in the amount of sunlight reaching the ocean surface will also affect ocean plant life that depends on photosynthesis to make food, microscopic sea plants, or plankton, are a key link

and a major source of nutrients in the food chain of marine animals.

The discovery of the Indian Ocean cloud points to the often-subtle environmental dangers produced by rising levels of uncontrolled emissions from industrial activity in Asia and elsewhere.

INTEGRATED COASTAL ZONE MANAGEMENT

ICGS Vijaya

India has a coastline of about 7500 kms in length including its island territories. Nearly 250 million people live within a distance of 50 kms from the coast. The coastal areas are assuming greater importance in recent years, owing to increasing human population, urbanization and accelerated developmental activities. Current approaches to the management and the coastal environments and resources are being rapidly degraded in India.

Up to now, the approach to managing India's coastal zone has been a purely regulatory one, as per the Coastal Regulation Zone Notification of 1991, promulgated under the Environment (Protection) Act of 1986. This approach does not provide room to balance Coastal Zone conservation and necessary economic growth in the area or seek convergence with other development activities. The 1991 notification restricts and controls development activities within a landward distance of up to 500 meters from the high tide line along the coasts. In the last decade, as the pressure of development has been growing, on one side there were reported violations of the provisions of the notification, and on the other demands from the various economic sectors to rationalize it. Two attempts to amend the notification were struck down by the Supreme Court of India, primarily owing to the normative and non-systematic processes by which the amendments were prepared.

In July 2004, following the Prime Minister's Office's (PMO) recommendations, the Ministry of Environment and Forests (MoEF) constituted an Expert Committee, called the Swaminathan Committee under the Chairmanship of Prof. MS Swaminathan, to carry out a comprehensive review of the Coastal Regulation Zone Notification, taking into account the findings and recommendations of previous committees, judicial pronouncements and representations of various stakeholders, and to suggest suitable amendments. The Swaminathan Committee submitted its report in February 2005, recommending a number of reforms to facilitate conservation of ecosystems in the coastal zone, and at the same time promoting economic development and poverty reduction in the coastal areas – to be operationalized through a more strategic, decentralized but scientific preparation and implementation of a National Coastal Zone Management Program.

The need for Integrated Management

Integrated Coastal Zone Management (ICZM) is a planning and coordinating process which deals with

development and management of coastal resources and which is focused on the land water interface. Many countries are now organizing ICZM programme or have organized partial ICZM programme (e.g., Philippines, Australia, and Costa Rica).

It is becoming more and mote difficult to manage any one particular coastal natural resource or enhance one economic sector in the absence of a comprehensive, integrated, framework for policy planning and management. The overall objective of an integrated management programme, like ICZM, is to provide for the best long-term and sustained use of coastal natural resources and for perpetual maintenance of the most beneficial natural environment.

ICZM incorporates modern principles of planning and resources management, intensive information bases and interdisciplinary processes. It has proved to be an effective general framework for dealing with conflicts arising from interactions of the various uses of coastal areas.

Benefits of ICZM

ICZM programmes can benefit through any or all of the following :-

(a) Facilitating sustainable economic growth based on natural resources.

(b) Conserving natural habitats and species.

(c) Controlling pollution and the alteration of shore lands and beachfronts.

(d) Controlling watershed activities that adversely effect coastal zones.

(e) Controlling excavation, mining and other alteration of coral reefs, water basins, and sea floors.

(f) Rehabilitating degraded resources.

(g) Providing a mechanism and tools for rational resource allocation.

World Bank Support

The Ministry of Environment and Forests (MoEF) and the Government of India (GoI) have requested the World Bank for support in the implementation of the Swaminathan Report and to be involved in the various initiatives undertaken to institute pro-active management of the Coastal Zone. Bank support to this effort by GoI is in line with the Bank's engagement in India, which focuses on environmental and social sustainability, poverty reduction and, increasingly in recent years, on reduction of vulnerability to climate change and disasters. Investing in a strategic approach to coastal zone management would support all these goals. Secondly, there is strong Borrower commitment to this activity. Third, many of the Bank's investments, ranging from municipal infrastructure to rural water supply and irrigation, and also large infrastructure projects are in the coastal zone. Thus, this project would also support

the sustainability and long-term effectiveness of other GoI investments, including Bank-financed ones, in various sectors.

The preliminary project has following four components to start with :-

(a) Vulnerability and ecological mapping.

(b) Institution building and strengthening at national level.

(c) Development and implementation of state-level approaches to Integrated Coastal Zone Management.

(d) Project management.

Pollution Response and Control

The pollution response mechanism forms a vital link of the ICZM cycle. The MoEF in association with the World Bank is trying to address this issue through formation of pollution management centers especially at ecological sensitive areas of Gujarat, Orissa and West Bengal. The pilot projects are expected to be launched first in these three states and later on implemented in other maritime states of India. The shipping industry, state maritime boards and Indian Coast Guard will play a major role in the ICZM project to bring drastic changes in coastal zone management.

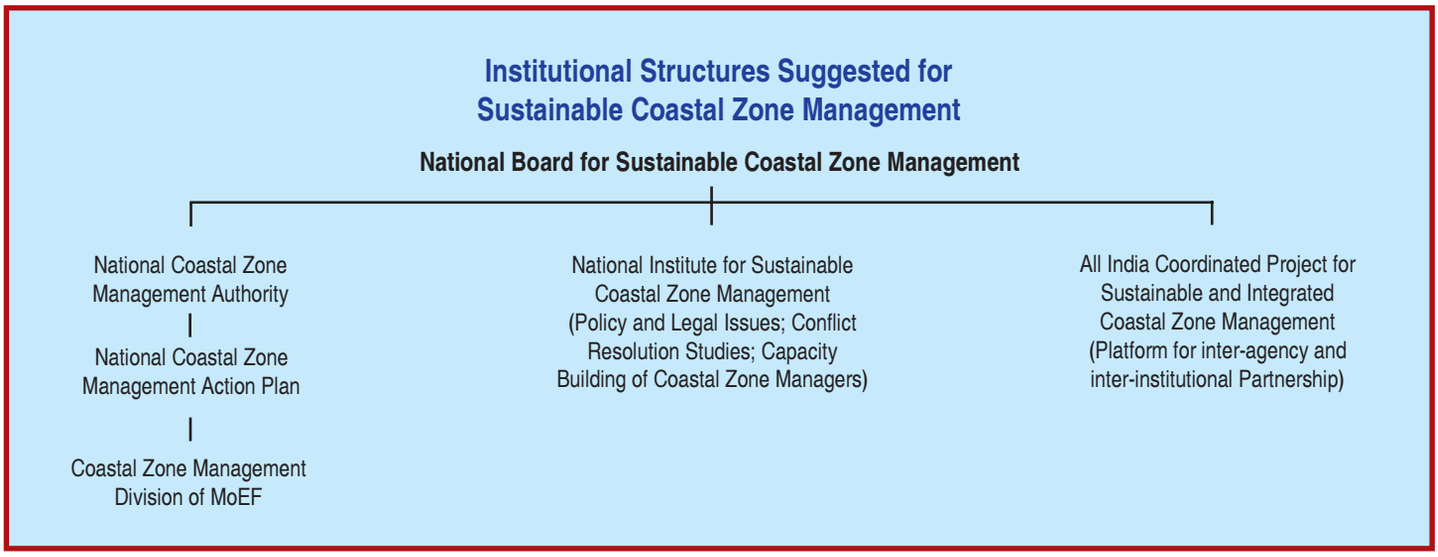
MINISTRY OF ENVIRONMENT AND FORESTS PROPOSES NEW COASTAL ZONE MANAGEMENT 2008

For the purpose of protecting and conserving the coastal environment, the Ministry of Environment and Forests issued the Coastal Regulation Zone (CRZ) Notification, 1991 under the Environment Protection Act, 1986. This notification provides a unique regulatory framework for the conservation of the coastal resources by regulating development activities within the CRZ. However during the last 14 years of its implementation, the MoEF has received representations from diverse interest groups pointing out the inadequacies of the notification from the point of view of both conservation as well as sustainable livelihoods. A number of Expert Committees have also been constituted by the Central Government in the past to look into these representations and a number of amendments have been made in the notification since 1991 for addressing various concerns. However, the need for a comprehensive review of the notification to ensure that the management of the coastal resources is based on sound scientific principles has remained. Therefore, as part of the Central Government's initiative for the review of all environmental regulatory systems, the Ministry constituted an Expert Committee under the Chairmanship of Prof. M.S. Swaminathan in July, 2004 to review the existing CRZ Notification and recommend necessary amendments to make the regulatory framework consistent with the Environment (protection) Act, 1986.

The Committee has recommended the reclassification of the coastal zone into four Zones i. e.:

1. Coastal Management Zone-I - Consists of areas designated as Ecologically Sensitive Areas such as Mangroves, Coral reefs, Sand Dunes, Inland tide/water bodies such as estuaries, lakes, lagoons, creeks & straits, Mudflats, Marine parks and sanctuaries, Coastal forests & wildlife, Coastal fresh water lakes, Salt Marshes, Turtle nesting grounds, Horse shoe crabs habitats, Seagrass beds, Sea weed beds, Nesting grounds of migratory birds etc.

2. Coastal Management Zone-II - Consists of areas identified as Areas of Particular Concern such as



economically important areas, high population areas and culturally/strategically important areas. The administrative boundaries of these areas would be boundaries of CMZ-II.

3. Coastal Management Zone-III - Consists of all other open areas including the coastal seas but excluding those areas classified as CMZ-I, CMZ-II and CMZ -IV.

4. Coastal Management Zone-IV - Consists of Islands of The Andaman and Nicobar and Lakshadweep.

For the purpose of managing the above areas, the Committee has suggested Integrated Coastal Zone Management Approach. After taking into account the recent Tsunami, the Committee has laid emphasis on demarcation of vulnerability line all along the coastal areas and has suggested developmental activities to be regulated on the seaward side of the vulnerability line. Since the coastal management is a multi-disciplinary subject, the Committee has suggested a National Sustainable Coastal Zone Management Institute along with organisational structure to address issues relating to policy, law, conflict resolution and to creating public awareness. The Committee has laid special emphasis on developing bio shields all along the coastal areas by intensive plantation of mangroves, casuarinas, etc.

The Ministry of Environment & Forests has broadly accepted the recommendations made in the Report and has initiated an action for implementing the recommendations. *(For details: http://envfor.nic.in)*

INFORMATION ON THE 57TH SESSION OF MARINE ENVIRONMENT PROTECTION COMMITTEE MEETING AT IMO, LONDON

The fifty-seventh session of IMO's Marine Environment Protection Committee was held at Royal Horticultural Halls and Conference Centre, London, from 31 March to 04 April 2008, under the chairmanship of Mr. A. Chrysostomou (Cyprus) and Vice-Chairman Mr. A. Chatterjee (India). The session was attended by delegations from 88 Members, 1 Associate Member, 3 UN Specialised Agencies, 7 inter-governmental organisations and 39 NGOs.

This report highlights discussions or decisions made on following key issues:

Ship recycling

IMO's Working Group charged with developing the International Ship Recycling Convention made good progress on the draft Convention at the MEPC 57 meeting. Agreement was reached that the final draft Convention will be adopted in May 2009 at a Diplomatic Conference in Hong Kong. India's longstanding concern to bring under the Convention information on ownership of ships for recycling contained in the commercial sale contract

for recycling was addressed by noting that from January 1, 2009 it will be mandatory for all companies owning or managing ships to be issued by an IMO identification number as per SOLAS (Res. MSC 194(80)) and it was agreed by the Committee to require data on IMO registered owner identification number and on IMO company identification number in the form for the International Certificate on Inventory of Hazardous Materials (Appendix 3 to the Annex to the Convention) and in the form of the International Ready for Recycling Certificate (Appendix 4 to the Annex to the Convention). A simplified form for the Document of Approval for Ship Recycling was accepted following a lengthy drafting debate.

Air Pollution - Outline agreement reached on revisions to Annex VI

At this session agreement was reached on a package of amendments to MARPOL Annex VI pertaining to global cap on Nitrogen Oxide (NOx) and Sulphur Oxide (SOx) emissions. Subject to formal adoption at MEPC 58 in October 2008, these revisions will enter into force through the tacit amendment procedure in February 2010.

It is hoped that these measures, which address regional and global concerns on SOx and NOx emissions, from both new and existing ships, in an integrated manner will remove the pressure for regional legislation and the resulting complexities and complications for owners and administrations.

Greenhouse Gas Emissions from Ships

At the start of the discussions, the Secretary General highlighted the need for the Organisation and the Maritime community at large to act in concert with, and contribute to, the wider international efforts aimed at swift and substantive action to combat climate change under the UNFCCC process, by proactively addressing the principles and objectives enshrined in the road map agreed at the Bali Conference out of genuine concern for the atmospheric environment.

The proposal for a mandatory CO_2 design index for new ships submitted by Japan, Denmark and others (including ICS) was the subject of lengthy debate concerning its possible future application and likely contribution to GHG reductions. A number of specific items were discussed by the WG including the Danish proposal for a global levy, the development of a methodology for a CO_2 emission baseline and the identification of a number of immediate voluntary

measures stakeholders (i.e. not just ship owners) could take to reduce GHG emissions from shipping. Since the time frame was less to conclude on any thing on GHG issues, an intercessional WG was agreed upon to be conducted at Oslo in Jun 08.

Anti-fouling systems

The Antifouling Systems Convention (AFS) will enter into force on 19 September 2008. Two dates were established in the Convention: 1 January 2003, after which date ships should not apply tin-based anti-fouling systems on their hulls, and 1 January 2008, after which date ships should not have tin-based systems on their hulls i.e. it should be grit blasted and removed or covered with a sealer coat.

Ballast Water Management Review Group

The Indian Delegation provided information on the follow-up of the Globallast Project and, in particular, to the development of an electronic management tool in the form of a 'ballast water management reporting form', which they offered to share, free of charge, with interested Member States. They further confirmed to the Committee that the Govt. of India has decided to allot U.S. Dollar 16.5 million for funding port baseline Surveys and risk assessment of eight major ports and for funding an appropriate ballast water treatment system testing facility at National Institute of Oceanography, Goa, India.

Annex V: Mediterranean Sea - Special Area

The Committee adopted a resolution containing their decision that: the garbage discharge requirements for Special Areas in regulation 5 of MARPOL Annex V for the Mediterranean Sea area shall take effect from 1 May 2009, in accordance with the necessary regulations. Hence garbage discharge as defined in Annex V will be forbidden in this area from this date. The resolution also urges voluntary compliance with immediate effect.

Protection of Particularly Sensitive Sea Areas (PSSA)

The Papahanaumokuakea Marine National Monument of USA in the Pacific Ocean will become a Particularly Sensitive Sea Area with effect from 1 May 2008. It may be recalled MEPC 56 after careful study of proposal from USA had agreed to designate the Papahanaumokuakea Marine National Monument (North-Western Hawaiian Islands or NWHI) as a Particularly Sensitive Sea Area (PSSA) in accordance with the Revised PSSA Guidelines (Resolution A.982 (24)).

Shipping Noise and Marine Mammals

It has been anticipated for some time that the subject of the effect of radiated noise from ships and its effect on marine mammals would reach the MEPC agenda. The United States submitted an information paper (MEPC 57/INF.4) and stimulated a short debate during which other countries undertook to provide further information to future meetings. Interested member States were encouraged to engage with the shipping industry and others to continue the debate. This is not yet a work item but it is inevitable that it will become one in the fairly short term.

IMO NEWS

"60TH ANNIVERSARY OF THE ADOPTION OF THE IMO CONVENTION" 1948 - 2008

There is no doubt that IMO has come a very long way since its inception.

The Organization was born into a world weary from after effects of war and some old powers still held sway in terms of global prosperity and trade. As a consequence, these were also major powers in shipping and, as the leading maritime nations, they tended to create their own standards with regard to vessel construction, safety, manning and so on.

But, in 1948, the new spirit of global unity that was in the air and the first glimpses of a new world order on the horizon combined to cause a number of far-sighted nations to draw up the blueprint for an international organization that would develop standards for shipping - for adoption and universal implementation throughout the entire industry. For it was becoming generally accepted that a situation in which each shipping nation had its own maritime laws was counter-productive in ensuring safety in shipping operations worldwide. Not only were standards different, but some were far higher than others. Conscientious safety-minded shipowners were at an economic disadvantage vis-à-vis their competitors who spent relatively little money on safety, and this was a threat to any serious attempt to improve safety at sea and to international seaborne trade as a whole.

Now, of course, all this has changed. Globalization has transformed international trade, new powers have emerged in shipping and the plethora of measures established by IMO has provided the bedrock on which a safer and cleaner industry can continue to develop and flourish.

Moreover, IMO's work has demonstrated that international standards - developed, agreed, implemented and enforced universally - are the only effective way to regulate such a diverse and truly international industry as shipping.

The Organization's standards are now firmly embedded in shipping's consciousness and practice and they shape the industry of today and also set standards for the maritime administration and law enforcement agencies world over. Indeed, the comprehensive body of IMO conventions (some 50 in total), supported by literally hundreds of codes, guidelines and recommendations, govern just about every facet of the shipping industry - from the design, construction, equipment and operation of ships to the training of seafarers, or from the drawing board to the scrapyard.

There is no doubt that shipping's environmental consciousness continues to grow. This is illustrated not only by its wide acceptance of IMO's environmental standards and the initiatives that the industry itself has put in place to prevent its operations having a negative impact on the environment, but also by its eagerness to challenge and reverse shipping's unwarranted negative image and, through a variety of media, enhance its environmental credentials, highlighting its ever-improving record and contribution to sustainable development.

REPORTS

WORLD WATCH

OIL SPILL OFF ANGOLA

On 16 February 08 at 2300 hrs, an oil spill occurred at the loading buoy of the Floating Production, Storage and Offloading (FPSO) Dalia (around 130 km offshore), during a transfer operation to a tanker. Total Exploration and Production Angola (TEPA) immediately set up a crisis unit which deployed, in liaison with Total's head office, the necessary human resources and equipment needed to respond to the spill. Technical experts joined the crisis unit set up in Luanda.

Entrance to Lake MASSABI

Chemical dispersants were applied to the slick. Recovery operations then began at sea to recover undispersed oil. The crisis unit began to prepare for the possibility of pollutant arriving on the shoreline. With the support of experts present onsite, preparation was organised as follows :-

- surveying of the shoreline at threat and identification of sensitive areas needing protection.
- proposal of protection strategies for the sites identified.
- analysis of response equipment available and recommendations on the constitution of a pollution response equipment stockpile suited to the particularities of these sites.
- No oil arrived on the shoreline.

OIL SPILL IN DONGES REFINERY

Polluted reed beds and grasslands

On Sunday 16 March 2008, a pipe leak caused a spill of an estimated 400 tonnes of bunker fuel during the loading of a vessel at Donges Refinery, Loire-Atlantique, France. Technical advisers were immediately sent onsite to carry out pollution reconnaissance and to make recommendations on appropriate clean-up techniques.

Manual clean-up site

Recovery operations at sea and in the estuary were promptly organised. A recovery vessel was mobilized at the mouth of the Loire River with the trawl net. Two trawlers collected tar balls in the estuary. Several pollution response booms were set up, especially to protect streams.

On 17 March, the French Minister of Ecology, Energy, Sustainable Development and Planning visited the site to assess the situation.

Almost 750 people (civil security, fire service and private

service providers) were rapidly mobilised to clean up the river banks. The waste collected wascentralised and treated at Donges Refinery.

Pressure washing

Several meetingswere held between professionals from the area (shellfish collectors, salt marsh workers, eel fishermen…) and Total in order to define the procedure of listing the damages. On 17 March, a ban was introduced on sea fishing, by both professionals and amateurs, as well as on marine culture activities and the sale of aquaculture produce. French Department of Health were put in charge of regularly sampling shellfish in order to monitor any possible contamination.

A clean-up worksite

Observations conducted by the ONCFS and LPO showed that the proportion of oiled birds decreased as the response operations advanced. A count of birds affected was carried out.

Deposits of oil were reported on the agricultural ground bordering the Loire river. Usually these pasturing grounds are used from April onwards. Toxicological experts from the Veterinary School of Nantes were consulted in order to determine when the animals could return to their pastures.

The damages are to be assessed by a consultancy firm based in Nantes, commissioned by Total in order to assess the damages incurred. Four groups of marine-related occupations have been identified: fishing from a boat, professional shellfish collecting, shellfish breeding and fish merchants. Around 200 businesses related to sea fishing and marine cultures are concerned by these actions.

OIL SPILL OFF URUGUAY

Merchant ships from Greece and Malta collided off the coast of Uruguay, dumping fuel oil from one of the vessels on 04 Jun 08. The accident occurred between the Greek ship Syros and a Maltese vessel named Sea Bird, the latter of which had been anchored about 12 miles (20 km) off the coast of Montevideo, Uruguay's capital.

The Greek ship lost about 14,000 cubic meters of fuel oil after its fuel tank was ripped open. The spill was in the middle of the river and the wind carried it in the direction of southern Buenos Aires.

Preliminary investigation revealed that a crack in a pipeline connecting the tanker and the platform was the root cause of the accident.

At least one hundred penguins and other sea birds, found along Uruguay's beaches, were affected by the oil spill.

INDIA WATCH

No oil spill incident has occurred in our region in the since January 2008. However six grounding/ sinking around Indian coasts has been reported in this period.

EVENTS

SAGAR MANTHAN V

A National level pollution response exercise was conducted by Coast Guard Regional Headquarters (W) off Mumbai on 27 – 28 Mar 08. The exercise was conducted in two parts i.e. tabletop exercise and pollution response exercise by deploying assets. A total of 33 delegates from various ports/oil handling agencies/state pollution control boards participated in the table top exercise.

A scenario was simulated wherein a crude oil carrier MV Jyoti is collided with supply vessel near Bombay High oil fields development area. The master of the vessel reported that 1200 Tons of light Arabian crude oil has spilled into the water. This information was intimated to VTMS Mumbai and in turn to operations room at CGRHQ(W). Each group was directed to consider themselves to be the member of the operations management group and all groups to individually proceed for mitigation of oil spill.

Each group was provided with the rapidly developing scenario by way of providing them the inputs, by means of written text as well as simultaneously projecting it on the screen from a LCD projector.

In the final stages of the exercise, the participants were apprised based upon the spill trajectory an anticipated shore location selected near a beach surrounded by rocks. The rock cleaning situation was also

generated. Also, at this juncture they were provided with all relevant details to optimize the use of various resources at their disposal in the beach cleaning operations.

Lastly the details of coastal features for the area hit by the spill was given along with complete details of sand /land features of archeological importance/tourism details. This was for the appreciation of the participants to understand the economical impact, which would ultimately matter in event of oil spill. At the end, the cost effect and claims aspects were provided to each group to calculate financial implications.

The scenario and the subsequent developments were pre-arranged on a fast phase which otherwise would also actually happen in real scenario. All participants appreciated these aspects and could understand the procedures and fast decision making process involved during a pollution response operation.

Overall appreciations of all the participants were as follows :-

(a) Participants appreciated the exercise to be dynamic having the cross-play of natural factors.

(b) It enhanced understanding of the situations.

(c) Provided an excellent insight into the issues involved in tackling oil spill.

POLLUTION RESPONSE DEMONSTRATION AT PORT BLAIR

A pollution response demonstration by PRT (A&N) was organized for the delegates of littoral countries during MILAN 08. During the demonstration a presentation of oil pollution response followed by operation of PR Equipment was organised. The RO boom was streamed by ICGS Sagar and ICGS C-140 in "U" shape. The disc skimmer SS 50 was operated. The spray system was deployed by ICGS Sagar for displaying the capabilities of ICG for effective oil pollution response. All the delegates well appreciated Indian Coast Guard's efforts in protecting the Marine Environment.

PRADUSHAN-08

Pollution response exercise Pradushan-08 was conducted off Kakinada on 15 Apr 08 by Coast Guard Region (East). ICG Units and resource agencies viz. Kakinada Sea Port Ltd., Cairn Energy, ONGC and Reliance Industries Ltd. participated in the exercise.

The exercise was well planned and executed by all participating units. The representative of resource agencies along with local media embarked onboard ICG ship for onsite evaluation and gain experience from the entire exercise.

ELEVENTH NATIONAL OIL SPILL DISASTER CONTINGENCY PLAN (NOS-DCP) AND PREPAREDNESS MEETING

The Eleventh National Oil Spill Disaster Contingency Plan (NOS-DCP) and Preparedness Meeting was held at Chennai Port Trust, Chennai on 24th Apr 08. The Director General, Indian Coast Guard chaired the meeting. Seventy three delegates from various resource agencies and organisations participated in the meeting.

The Chairman, Chennai & Tuticorin Port Trust Shri K Suresh, welcomed all the delegates to 11th NOS-DCP Meeting at Chennai. In his welcome address, the Chairman Chennai Port Trust expressed his concern over the climatic changes taking place due to pollution and the resulting damage to the environment. He lauded the role of the Indian Coast Guard in monitoring the preparedness and capabilities of various stakeholders and also reiterated that all agencies are to work for a clean and safe marine environment so as to leave behind a safe and sustainable world for future generation.

Vice Admiral RF Contractor, AVSM, NM, Chairman NOS-DCP in his inaugural address thanked the Chairman, Chennai & Tuticorin Port Trust Shri K Suresh, for hosting the 11th NOS-DCP meeting. He welcomed all the delegates

and expressed his satisfaction over the progress made by the resource agencies and stakeholders.

The Chairman impressed upon the delegates for early formulation of local contingency plans and positioning of Tier-1 facilities. He also expressed his concern over the

climate change issues which are taking place due to global warming and stressed the need for coordinated actions from regulators and the industry to protect the environment so as to give the future generation a pollution free and sustainable world. The Chairman drew the attention of the audience towards the collision incident of drifting barge with VLCC Hebei Spirit in the port of Incheon, South Korea (resulted in a spill of about 10,000 tonnes of crude oil) leading to a major environment disaster, and stated that about 20,000 personnel and all available resources were mobilised to respond to this disaster. He informed that the response operations served as an eye opener and such an incident could happen anywhere, anytime and preventive activities and preparatory measures can only enable the responders to address such issue effectively. The collision of tug Dhan Lakshmi and MV Star Leikanger off Jakhau on 15 Oct 07 reminded everyone of the need for preparing effective contingency plans and acquiring Tier-1 pollution response facilities at the earliest to combat such eventualities.

The Chairman also expressed his concern about the unseaworthy ships plying in our waters and also highlighted the high risk of pollution threat posed by the transiting of VLCC and ULCCs close to our coast and island territories. He urged all Govt authorities to institute appropriate measure in this regard. The Chairman stressed the importance of training of personnel and requested all concerned to avail the training provided by the Indian Coast Guard and also exercise their personnel regularly to meet any eventuality and keep their pollution response equipment operational at all times. He further emphasised the need for interoperability of equipment among the resource agencies.

Finally the Chairman called upon the port and oil handling agencies to establish an effective MoU where the need for resource pooling is required and take actions for acquisition of Tier-1 facilities in a time bound manner.

The Secretary, NOS-DCP & Director (Fisheries and Environment), CGHQ briefed the participants about the developments at the national level since last NOS-DCP meeting.

There were five presentations arranged for the benefit of the members during the meeting. The first presentation was on "**Guidelines on use of Oil Spill Dispersants**" by Dr SP Fondekar, Dy Director, NIO. The presentation highlighted various aspect of Oil Spill

Dispersant including testing parameters, consequences of using OSD, the reaction of OSD with oil, etc. The second presentation was on "**Oil Pollution Control by New Mangalore Port Trust**" by Shri N Rajapoopathi, Pollution Control Officer, New Mangalore Port Trust. The presentation highlighted the policy being adopted by NMPT in checking oil pollution within the harbour and penalisation of offenders thereby ensuring clean waters in their port limits. The third presentation was on "**Environmental Sensitivities in West Coast**" by Commandant SD Sonak, Dy O i/C, Coast Guard Pollution Response Team (West). The presentation highlighted the sensitive and important areas in the West coast, sources of pollution, resources for pollution response, human resource and training and issues related to NOS-DCP. The fourth presentation was on "**Oil Spill Models**" by Dr RS Kankara, Scientist E, ICMAM-PD. The last presentation on "**Oil Spill Contingency on Eastern Sea Board**" was given by Deputy Inspector General BS Yadav, O i/C, Coast Guard Pollution Response Team (East).

The important issues which were discussed and deliberated upon during the meeting included the major oil spill exercise and training, procurement of Tier-1 facilities, use of oil spill dispersant, preparation of Local Contingency Plan, software for combating oil spills, procurement of pollution control vessels for ports, inclusion of new ports under NOS-DCP, oil spill response centre at Gulf of Kutch region etc.

The Chairman while summing up thanked all stakeholders for attending this meeting and lauded the efforts put in by the representatives of ICMAM-PD, NIO and NMPT for their informative presentations. He emphasized the need to follow up various decisions, which were taken during the meeting in order to enhance sysnergised preparedness to combat oil spills in Indian waters.

GROUNDING & SINKING INCIDENTS OF MERCHANT VESSELS IN INDIAN WATERS IN 2008

S. No.	Date of Incident	Name of Vessel	Flag	Area of Incident	Nature of Incident
01	07.01.08	MV Robert	Indian	Off Androth Island	Sunk
02	22.03.08	MV CS Signe	Panama	Budge Budge Harbour, Kolkatta	Grounding
03	13.05.08	MV Al Manara	St Kitts	Off Murud	Grounding
04	04.06.08	Barge Al Murtaza	Indian	Off Alang	Grounding
05	23.06.08	Barge MV Nilan	Bangladesh	Nurpur, Kolkatta Port	Sunk
06	05.07.08	MV Golden Star-1	Panama	Paradip Port	Grounding

MINOR & MAJOR OIL SPILLS IN INDIAN WATERS (SINCE 1982)

S. No.	Date	Qty and Type of Spill (Tonnes)	Location	Spilled by
01	1982	Not Assessed	West Coast	Sagar Vikas
02	24/10/88	1000	Bombay Harbour	Lajpat Rai
03	1989	Not Assessed	West Coast	SEDCO 252
04	1989	5500/Diesel Oil	795 nm SW of Bombay	MT Puppy
05	04/8/1989	Not Assessed	Bombay Harbour	ONGC Tanker
06	29/8/1989	Not Assessed	Saurashtra coast	Merchant ship
07	29/8/1989	Not Assessed	Bombay Harbour	Unknown
08	22/3/1990	Not Assessed	NW of Cochin	Merchant Ship
09	07/9/1991	692/FO	Gulf of Mannar	MT Jayabola
10	14/11/1991	40000/Crude	Bombay High	MT Zakir Hussain
11	22/2/1992	Tanker wash	40 NM S of New Moore Is	Unknown
12	2/4/1992	1000/Crude	54 NM west of Kochi	MT Homi Bhabha
13	16/8/1992	1060/SKO	Madras Harbour	MT Albert Ekka
14	17/11/1992	300/FO	Bombay Harbour	MV Moon River
15	21/1/1993	40000	Off Nicobar Islands	Maersk Navigator
16	28/3/1993	NK/Crude	Off Narsapur	ONGC shore rig at Kumarada
17	29/4/1993	110/Crude	Bombay Harbour	MT Nand Shivchand
18	10/5/1993	90/FO	Bhavnagar	MV Celelia
19	17/5/1993	6000/Crude	Bombay High	BHN Riser pipe rupture
20	02/8/1993	260/FO	Off New Mangalore	MV Challenge
21	01/10/1993	90/Crude	Cochin Harbour	MT Nand Shiv Chand
22	12/5/1994	1600/Crude	Off Sacromento Pt.	Innovative-1
23	12/5/1994	Not Assessed/FO	360 NM SW of Porbandar	MV Stolidi
24	05/6/1994	1025/Crude	Off Aguada Lt	MV Sea Transporter
25	20/7/1994	100/FO	Bombay Harbour	MV Maharshi Dayanand
26	27/11/1994	288/HO	Off Madras	MV Sagar
27	26/3/1995	200/Diesel	Off Vizag	Dredger Mandovi-2
28	24/9/1995	Not Assessed/FO	Off Dwaka	MC Pearl
29	13/11/1995	Tanker wash	Eliot beach,Madras	Unknown
30	21/5/1996	370 FO	Hooghly River	MV Prem Tista
31	16/6/1996	120 /FO	Off Prongs, Mumbai	MV Tupi Buzios
32	18/6/1996	132 /FO	Off Bandra, Mumbai	MV Zhen Don
33	18/6/1996	128 /FO	Off Karanja, Mumbai	MV Indian Prosperity
34	23/6/1996	110/FO	Off Worli, Mumbai	MV Romanska

S. No.	Date	Qty and Type of Spill (Tonnes)	Location	Spilled by
35	16/8/1996	124/FO	Malabar Coast	MV Al-Hadi
36	25/1/1997	Tank wash	Kakinada Coast	Unknown
37	19/6/1997	210/FO	Off Prongs Lt, Mumbai	MV Arcadia Pride
38	19/6/1997	Not Assessed	Hooghly river	MV Green Opal
39	14/9/1997	Naptha, DieselPetrol	Vizag	HPC refinery
40	02/8/1997	70/FO	Off Mumbai	MV Sea Empress
41	10/3/1998	Gas leak	Bombay High	Drill Rig Noble
42	12/5/1998	Gas Leak	Bombay High	Bombay High platform
43	01/6/1998	20/Crude	Off Vadinar	Vadinar,SBM
44	09/6/1998	Not Assessed	Off Porbandar	Ocean Barge
45	09/6/1998	Not Assessed	Off Veraval	Ocean Pacific
46	08/7/1999	500/FO	Mul Dwarka	MV Pacific Acadian
47	19/7/2000	Not Assessed	Off Sagar Island	MV Prime Value
48	8/9/2000	Not Assessed	Off Fort Aguada	MV River Princess
49	17/12/2000	1/FO	Bombay Harbour	MV STonnesewall Jackson
50	08/6/2001	Not Assessed	Vadinar Gulf of kutch	Not known
51	10/7/2001	1305/Diesel Oil	Hooghly river	MV Lucnam
52	23/09/2002	Not Assessed	Off Pt Calimare 220 NM	MV HIDERBAHY
53	29/04/2003	2000 Ltrs of Arab light crude oil	O5 miles off Kochi	MT BR AMBEDKAR
54	09/05/2003	2000/Naphtha	Mumbai harbour (sw of west Colaba Pt.)	MT UPCO_III
55	18/05/2003	145/FFO	Off Haldia	MV SEGITEGA BIRU
56	10/08/2003	300/Crude Oil	ONGC Rig (BHN)	URAN Pipe Line
57	28/02/2004	01/Crude Oil	36 inches ONGC pipe line at MPT Oil Jetty (Tata Jetty -OPL PIRPAU)	During Cruide oil trasfer from Jawahar Dweep to ONGC -Trombay through 36 ' pipe
58	01/10/2004	500 to 600 Ltrs	Berth – MPT – 8 Goa	During oil transfer
59	23/03/2005	110	Off Goa (Aguada Lt)	MV Maritime Wisdom off Aguada Lt.
60	27/07/2005	80	Fire taken place on oil platform off Bombay high	BHN Platform Bombay High
61	30/08/2005	08	Sunken Ship off Tuticorin	MV IIDA
62	21/04/2006	90	Sunken Ship off Goa	INS Prahar
63	06/05/2006	Minor spill (less than 100 ltrs)	Sunken Tug off Pt. Calimer Tamilnadu	DCI Tug-IV
64	30/05/2006	70 tons of Furnace Fuel Oil	Grounded off Karawar Port	MV Ocean Seraya
65	14/08/2006	4500	Outside Indian EEZ near A&N Islands	MV Bright Artemis & MV Amar
66	15/10/07	13.9/FO	Off Jakhau	MV Star Leikanger & barge Dhan Lakshmi due to collision
67	17/10/07	Not assessed	S Yanam Beach, Kakinada	Oil drifted to shore from oil rigs

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... the updates will continue ...