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**STANDING COMMITTEE ON
PETROLEUM & NATURAL GAS
(2021-22)**

SEVENTEENTH LOK SABHA

MINISTRY OF PETROLEUM & NATURAL GAS

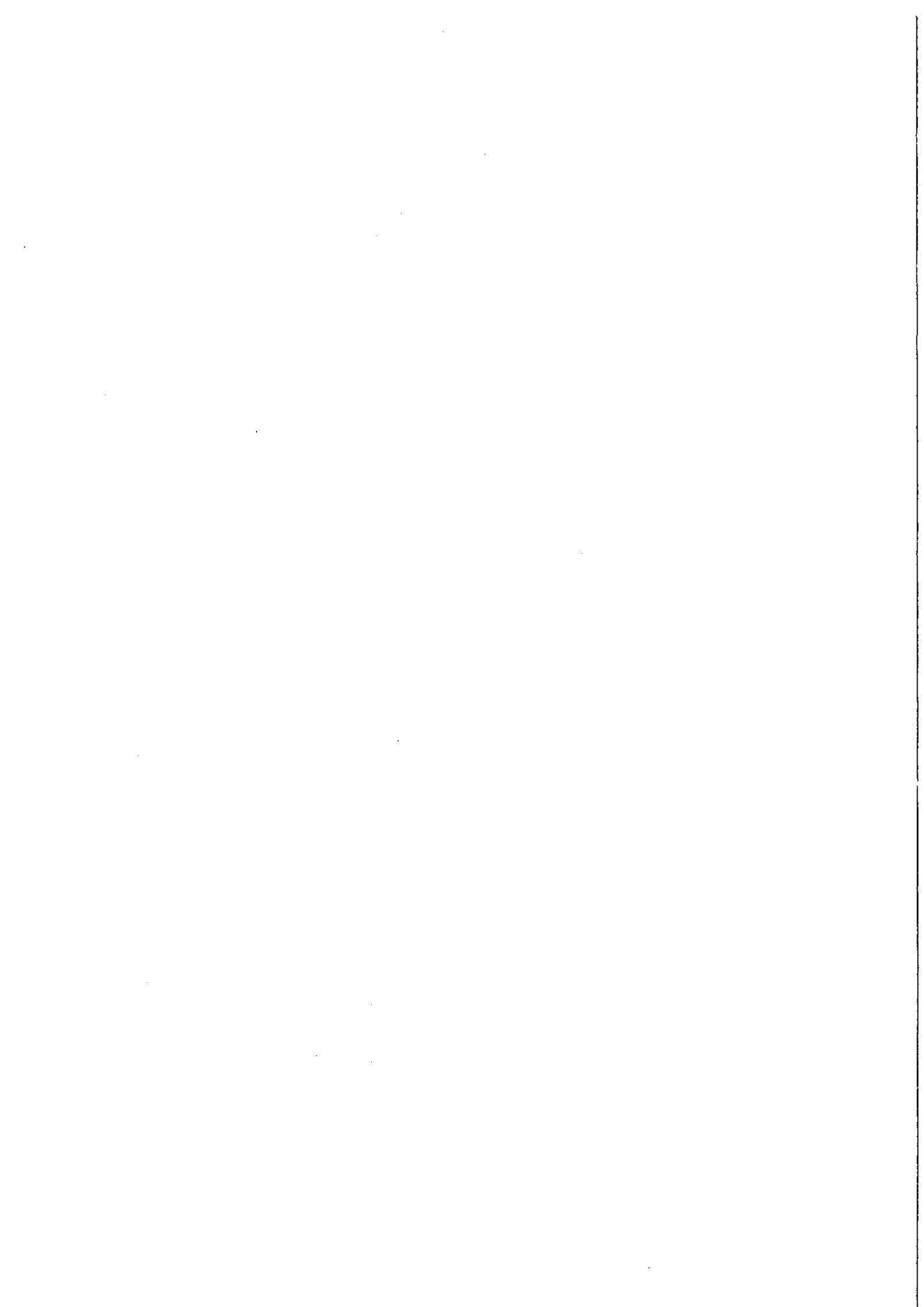
**SAFETY AND SECURITY OF OIL INSTALLATIONS OF
PUBLIC SECTOR OIL COMPANIES - WITH SPECIFIC
REFERENCE TO WESTERN OFFSHORE MISHAP DURING
CYCLONE TAUKTAE**

THIRTEENTH REPORT



**LOK SABHA SECRETARIAT
NEW DELHI**

April, 2022 / Chaitra, 1944 (Saka)



CP&NG NO.

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PETROLEUM & NATURAL GAS
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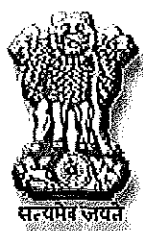
(SEVENTEENTH LOK SABHA)

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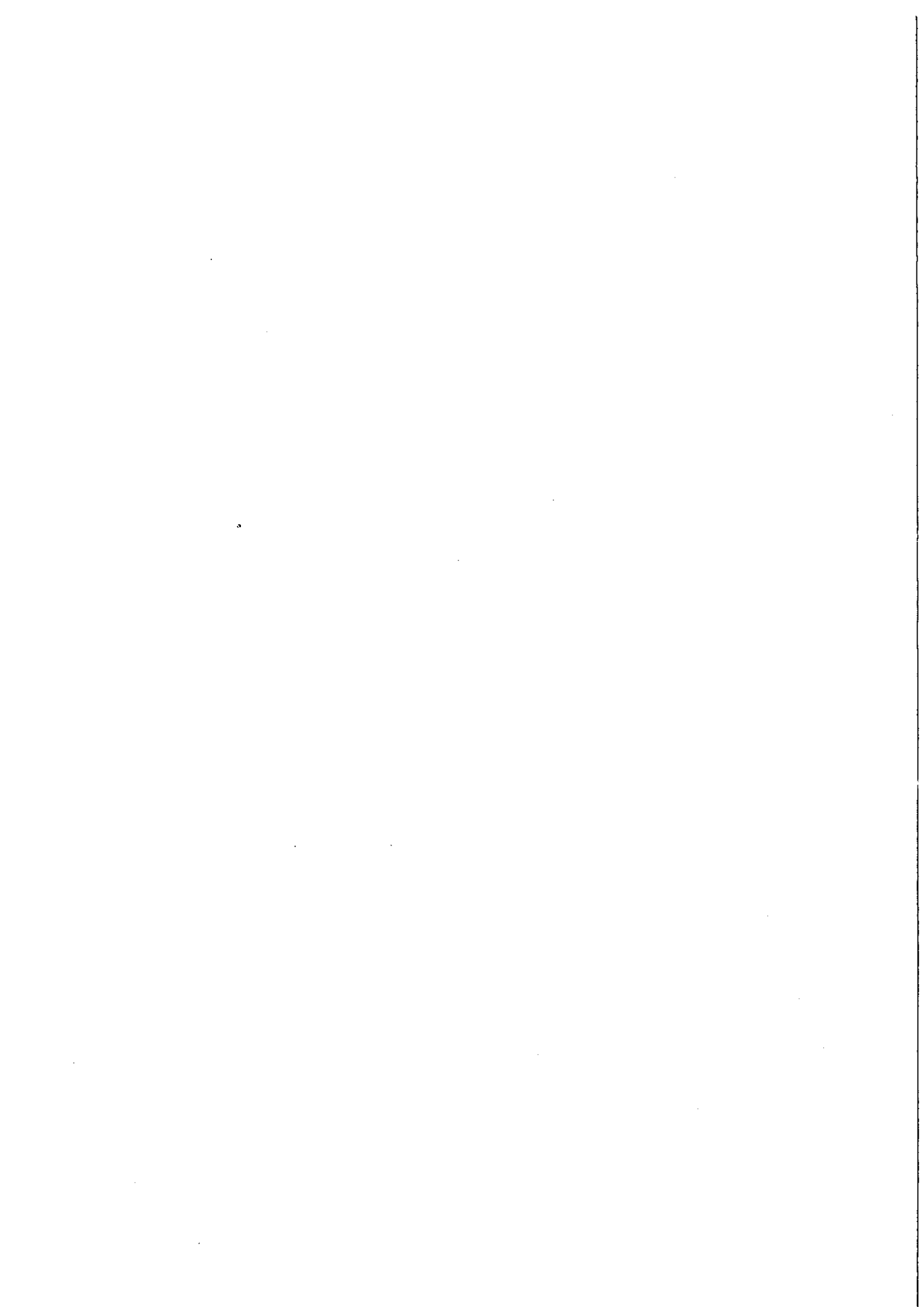
Presented to Lok Sabha on 06.04.2022

Laid in Rajya Sabha on 06.04.2022



**LOK SABHA SECRETARIAT
NEW DELHI**

April, 2022 / Chaitra, 1944 (Saka)



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(iii)

**COMPOSITION OF THE STANDING COMMITTEE ON PETROLEUM & NATURAL
GAS (2021-22)**

Sl. No. Names of Members

LOK SABHA

Shri Ramesh Bidhuri - Chairperson

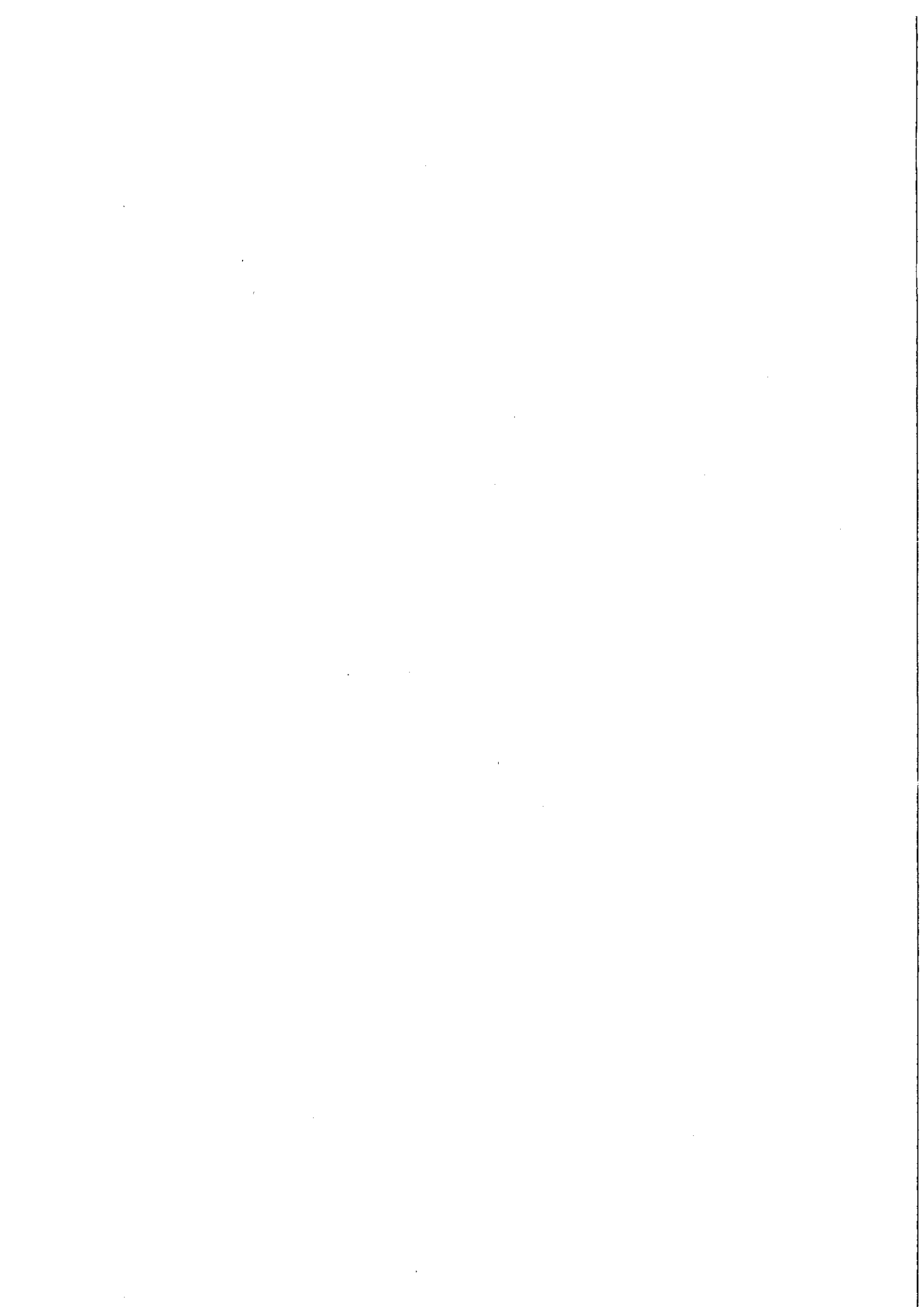
- 2 Smt. Chinta Anuradha
- 3 Shri Ramesh Chand Bind
- 4 Shri Pradyut Bordoloi
- 5 Shri Girish Chandra
- 6 Shri Topon Kumar Gogoi
- 7 Shri Naranbhai Kachhadiya
- 8 Shri Santosh Kumar
- 9 Shri Rodmal Nagar
- 10 Shri Mitesh Rameshbhai (Bakabhai) Patel
- 11 Shri Unmesh Bhaiyyasaheb Patil
- 12 Shri M.K. Raghavan
- 13 Shri Chandra Sekhar Sahu
- 14 Shri Dilip Saikia
- 15 Dr. Bharatiben Dhirubhai Shiyal
- 16 Shri Janardan Singh Sigriwal
- 17 Shri Lallu Singh
- 18 Shri Vinod Kumar Sonkar
- 19 Shri Ajay Tamta
- 20 Dr. Kalanidhi Veeraswamy
- 21 Shri Rajan Baburao Vichare

RAJYA SABHA

- 22 Shri Birendra Prasad Baishya
- 23 Shri Ripun Bora
- 24 Smt. Kanta Kardam
- 25 Shri Om Prakash Mathur
- 26 Shri Rambhai Harjibhai Mokariya
- 27 Shri Surendra Singh Nagar
- 28 Shri Subhas Chandra Bose Pilli
- 29 Dr. V. Sivadasan
- 30 Shri A. Vijayakumar
- 31 Ch. Sukhram Singh Yadav

SECRETARIAT

- 1 Shri H. Ram Prakash Director
- 2 Shri Deepak Kumar Assistant Executive Officer



INTRODUCTION

I, the Chairperson, Standing Committee on Petroleum & Natural Gas having been authorised by the Committee to submit the Report on their behalf, present this thirteenth report on the subject 'Safety and Security of Oil Installations of Public Sector Oil Companies - with specific reference to Western Offshore Mishap during Cyclone Tauktae'.

2. The Committee took briefing of the representatives of the Ministry of Petroleum & Natural Gas/PSUs, the Ministry of Ports, Shipping and Waterways and the Ministry of Earth Sciences at their sittings held on 20.10.2020, 28.06.2021, 26.07.2021, 09.11.2021 and 14.12.2021 respectively.

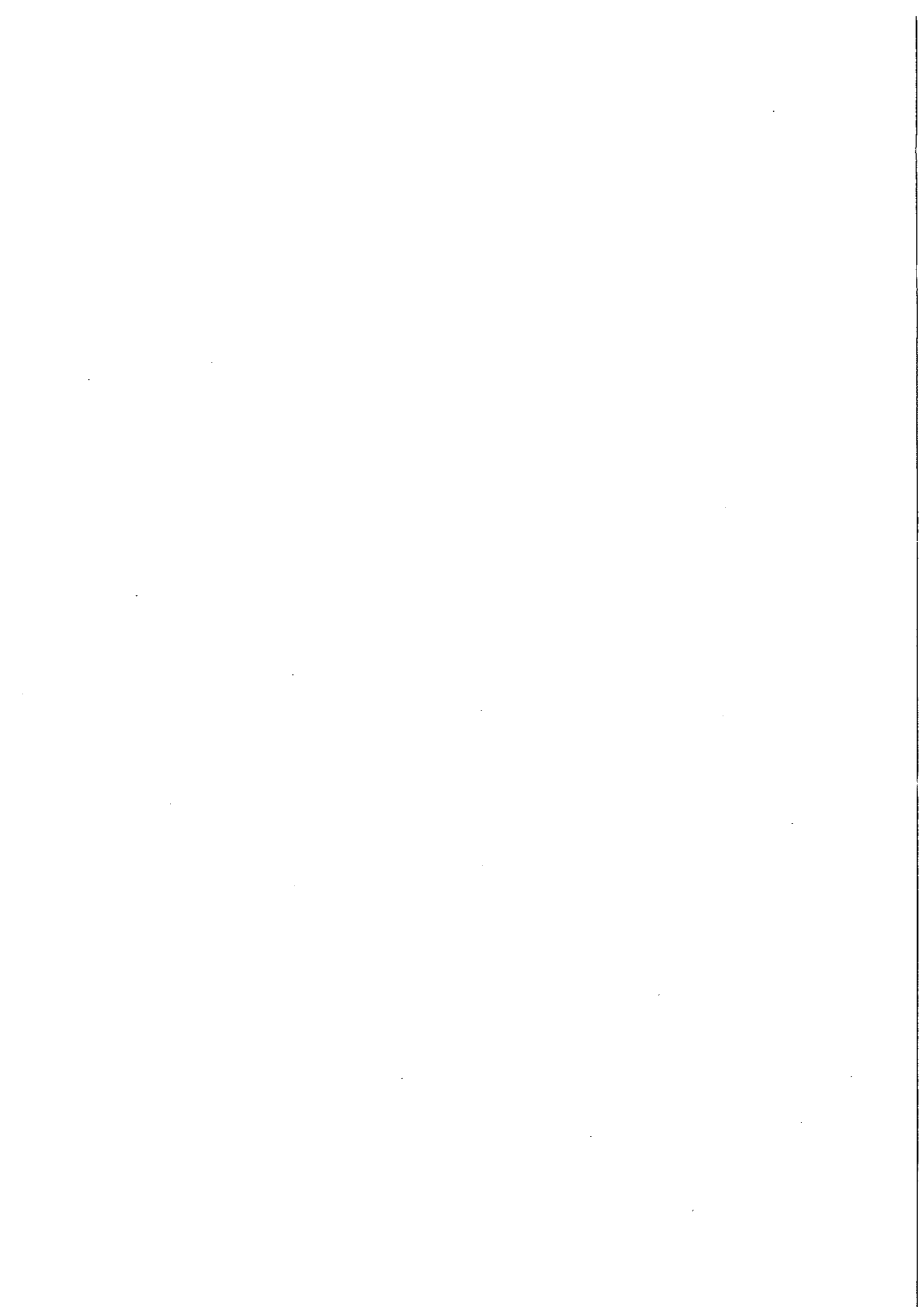
3. The Report was considered and adopted by the Standing Committee on Petroleum and Natural Gas on 04.04.2022.

4. The Committee wish to express their thanks to the representatives of the Ministry of Petroleum and Natural Gas/PSUs and PNGRB for placing their views before them and furnishing the information desired in connection with examination of the subject. The Committee wishes to place its appreciation to the representatives of the Ministry of Ports, Shipping and Waterways and Ministry of Earth Sciences for sharing their views and furnishing of information desired in examination of the subject which helped the Committee to understand the issues better.

5. The Committee also place on record their appreciation for the valuable assistance rendered to them by the officials of the Lok Sabha Secretariat attached to the Committee.

New Delhi;
04 April, 2022
14 Chaitra, 1944 (Saka)

RAMESH BIDHURI,
Chairperson,
Standing Committee on
Petroleum & Natural Gas.



REPORT

PART - I

Introduction

The Oil & Natural Gas Industry handles highly inflammable hydro-carbons in all physical forms – solid, liquid & gas – and operates processes under high temperature and pressure with presence of Oxygen (air) and many a times active source of ignition. Therefore, the safety in Petroleum and Natural Gas Industry is of paramount importance. It is not only critical for the operators' manpower and assets but also, by the very nature of possible adverse outcomes of safety system failure, critical for society at large - as such adverse outcomes, may spill over the boundary of the industry establishments. The Industry establishments, at their levels are aware of the risks involved and have safety system in place to obviate such adversities.

The Committee had selected the subject Safety and Security of Oil Installations of Public Sector Oil Companies for examination. However, the Committee felt the need to enquire into the handling of Cyclone Tauktae by ONGC and other concerned agencies entrusted with the Safety and Security of Oil Installations in the country. The examination of the subject and its conclusions are discussed in the following paragraphs.

Petroleum & Natural Gas Industry in India

1.2 There are 23 refineries, 16 Gas processing plants, 6 Liquefied Natural Gas (LNG) terminals, 683 Oil and LPG installations and more than 45,000 KM cross country pipelines spread across the length and breadth of the country. In exploration & Production total of 70 and 505 installations viz production complexes, well platforms, rigs are operating in Offshore and Onshore areas respectively.

1.3 The installed refining capacity of the country is around 250 Million Metric Tonne Per Annum (MMTPA); indigenous crude oil production is around 31 MMTPA while gas production is around 34 Billion cubic meter per annum. The marketing touch points including retail outlets, depots, and terminals are spread throughout the nooks and corners of the country from Kashmir to Kanyakumari and far flung North East states to Kutch. It maintains steady supply of vital petroleum products supply in the country.

Safety of vital plant, installation, employees and public at large is accorded the highest priority. It may be mentioned that the safety of the Oil & Gas Installations in the country is ensured by the company concerned; and the Industry in both Public and Private sector, have taken suitable measures in this regard.

“Safety in Oil & Gas industry – Statutory framework

Presently, the critical aspect of managing safety in Petroleum & Natural Gas Industry of India is overseen by number of authorities of various statures – both statutory and administrative like Petroleum & Explosives Safety Organisation (PESO), Directorate General of Mines & Safety (DGMS), Petroleum and Natural Gas Regulatory Board (PNGRB), Oil Industry Safety Directorate (OISD) etc. operating simultaneously in framing safety regulations and implementation thereof.

Current major Statutory Authorities in Safety Enforcement and their areas of operation are given in the following table:

Industry Segment	Concerned Ministry	Concerned Acts	Concerned Rules / Regulations	Statutory Authority
Upstream - E&P Onshore	Labour & Employment	Mines Act, 1952	Oil Mines Regulations, 2017	DGMS
Upstream - E&P Offshore	PNG	Oilfields Regulation and Development Act, 1948	P&NG (Safety in Offshore Operations) Rules, 2008	OISD – Competent Authority
Downstream & Gas (Natural) Processing Plants (GPP) and Pipelines	DPIIT, Commerce & Industry	Petroleum Act, 1934 Explosives Act, 1884	Petroleum Rules, 2002 SMPV Rules, 2016 Gas Cylinder Rules, 2016	PESO
Downstream (incl. Pipeline)	PNG	PNGRB Act, 2006	PNGRB Regulations	PNGRB

Other Statutory Authorities e.g. Inspectorate of Boiler, Inspectorate of Factories, CEA, CPCB / SPCB regulate in their respective areas of P&NG Industry thru respective Acts.

Role of MoP&NG in ensuring safety

Ministry of Petroleum and Natural Gas (MoP&NG) regularly monitors and reviews the various safety issues in the Oil & gas Sector and directs the oil companies from time to time to take suitable measures to ensure safety of these vital installations.

Senior representatives of Ministry of Petroleum & NG who are in the Board of PSU oil companies oversee the safety related programs and carefully monitor the various initiatives that are taken by the oil companies to ensure safety besides participating in regular business transactions.

MoP&NG is assisted by a technical directorate namely Oil Industry Safety Directorate (OISD) which is the technical wing and was formed in 1986 by a resolution of the Government with an objective to formulate and standardize procedures and guidelines in the areas of design, operation and maintenance as also the creation of new safety standards. It also coordinates the implementation of a series of self regulatory measures aimed at enhancing the safety in the oil and gas industry in India.

OISD is manned by a group of technical experts in the area of design, operation, maintenance, inspection, safety, environment etc drawn from the Oil & Gas industry. To address the operational safety issues in Offshore Oil and Gas operations, the Petroleum and Natural Gas (Safety in Offshore operations) Rules, 2008 have been formulated with emphasis on asset integrity and process safety. OISD is designated as nodal agency for overseeing implementation of these Rules in Offshore operations with effect from June'2008.

The Safety Council

To ensure proper implementation of various aspects of safety in the Oil & Gas industry, Government of India set up a "Safety Council" at the Apex in January, 1986 under the administrative control of MoP&NG as a special self-regulatory industry agency for safety matters & procedures in respect of Hydrocarbon sector.

Safety Council is headed by Secretary of MoP&NG as Chairman & includes members comprising Additional Secretary, Joint Secretaries, Chief Executives of all Public Sector Undertakings, at least two Chief Executives from Private / JV Companies on rotational basis, Statutory bodies such as Chief Controller of Explosives, Director General of Mines Safety, Adviser (Fire), Secretary, Central Electricity Board and Director General of Factory Advice service and Labour.

Safety Council is assisted by Executive Director, OISD who also acts as the member secretary of Safety council.

To review the Safety performance of the Industry, the Safety Council meets at least once in a year and last meeting of the council i.e. 37th Safety Council meeting was held on 7th August 2020 through video conferencing".

Safety Management System in ONGC

1.4 Safety in ONGC's operations is guided by Health Safety and Environment (HSE) Policy and HSE management system. HSE Policy underlines the commitment of the top management towards the following:

- Compliance to laws and codes and integrity of Assets
- Avoidance of accidents
- Preparedness for emergencies
- Enhance Safety culture

1.5 ONGC carries out its operations to ensure zero harm to the people or the environment by implementing Health, Safety and Environmental Management System (HSEMS) benchmarked to International Standards and addressing following aspects:

- Measurable goals promoting continual improvement toward zero incidents and the prevention of pollution.
- Visible management commitment, effective communication and training to ensure safety and health of employees and the community.
- Line management accountability for HSE matters and the individual contribution of all employees.
- Recognition by all employees and contractors that safety is a priority and that they are responsible for their safety and the safety of those around them.
- Integration of HSE considerations, including identifying and controlling risks and impacts into our business decisions, plans and operations.
- Periodic internal/ external audits and reviews of HSE systems and performance.
- Compliance with applicable legislation, regulations and relevant industry standards.
- Providing appropriate resources to implement HSE policy.

1.6 ONGC, in order to maintain high safety standards, goes beyond the Regulatory requirements and practices proactive safety through its Health, Safety and Environmental Management System (HSEMS). The management system is based on International Standards, ISO 9001, OHSAS 18001/45001 and ISO 14001.

1. Applicable Regulations

Following Acts/ Rules are being followed by ONGC for Safety of Oil and Gas Installations:

1. The Mines Act, 1952
2. Factories Act, 1948
(Both the above Acts are to be subsumed in Occupational Safety, Health and Working Conditions Code 2020)
3. The Petroleum and Natural Gas (Safety in Offshore Operations) Rules, 2008
4. The Oil Mines Regulations, 2017
5. Explosive Act, 1884
6. Atomic Energy (Factory) Rules, 1996
7. The Petroleum and Natural Gas Regulatory Board Act, 2006 and Rules made thereunder
8. The Petroleum Rules, 2002

1.7 The offshore operations of ONGC are conducted beyond the territorial waters of India, which are limited to 12 nautical miles from the base line and are situated in the Continental Shelf and Exclusive Economic Zone, defined under the provisions of the Territorial Waters,

Continental Shelf, Exclusive Economic Zone and other Maritimes Zones Act, 1976. The labour laws enacted by Government of India have coverage within the territory of the country.

Safety Regulatory Authorities:

- Oil Industry Safety Directorate (OISD)-Offshore E&P activities,
- Directorate General of Shipping - Marine activities
- Directorate General of Mines Safety (DGMS)-Onshore E&P activities,
- Factory Inspectorate (Factories Act 1948) - Plants & Workshops (outside mines)
- Chief Electrical Inspector, Central Electricity Authority (CEA) (Electricity Act 2003) - Plants & Installations
- PESO (Petroleum and Explosives Safety Organisation) – Storage, Transportation and usage of explosives for operations.
- State Fire Departments – Plants, Installations & Office Buildings.
- State Lift & Elevator Inspectorate– Plants & Office Buildings.

Existing Safety Management System

a) Technology Related

- All the onshore and offshore Installations are designed as per relevant national and international standards. The engineering and administrative controls pertaining to safety are incorporated at the design stage itself. These include process safety equipment, instrumentation & safety interlocks, pressure relieving and control devices, material selection etc. and follows relevant national / international standards.
- Safety studies like Hazard Identification (HAZID), Hazard Operability (HAZOP), Quantitative Risk Assessment (QRA) and Safety Integrity Level (SIL) are conducted at inception stage of all E&P projects. All relevant National/International standards & codes are complied with.
- Incorporation of best engineering practices in line with American Society of Mechanical Engineers (ASME), American Petroleum Institute (API), Deutsche Institute Fur Normung (DIN), National Fire Prevention Association (NFPA), Bureau of Indian Standards (BIS), OISD Standards etc.
- The hazards associated with each operational activity are objectively identified, quantified and documented in Installation based Risk Register. Based on the risk associated with hazards, site specific safe working practices / plans are developed and implemented to ensure mitigation of these hazards effectively.
- In its effort to ensure adequate safety critical barriers, ONGC has implemented a policy on Identification, Standardization, Maintenance and Monitoring of Safety Critical Equipment (SCE) which is Prevention, Detection and Mitigation. They act as engineering controls to ensure that the risk due to Major Accident Hazards (MAHs) are minimized.
- Selection, installation and testing of well control equipment during Drilling and Workover operations are carried out as per the recommended practices on Well Control specified in OISD-RP-174 of OISD.
- IT enabled services are provided in Drilling, Workover, Production operations. All Daily Progress Reports (DPR) are uploaded in SAP system to ensure speedy decision making. In addition, safety audits and accident data is also monitored and

analysed through SAP. SCADA (Supervisory Control and Data Acquisition) system is available for real time monitoring of operations.

b) Systems & Procedures

- Permit to Work (PTW) system is followed at all locations as per the requirement of the job. The conditions and requirements for the job at site, as per the requirement of the PTW are checked before, during and after completion. All such jobs are carried out under proper supervision. ONGC has implemented SAP based E-PTW (Electronic Permit to Work). The system removes requirement of approvals on paper, enables monitoring from anywhere, maintains system based checks & balances, eliminates possibility of bypass of procedures and creates trail of documentation which can be utilized for audits and data analysis for improvement. This online tool is serving as an effective measure to ensure that procedures are followed and implemented
- Every Rig/ Installation has site specific SOPs pertaining to the operations handled by them. Other operations like logging, well stimulation, cementing, maintenance etc. have their own SOPs. The SOPs are available at relevant Rig/Installation and also available on ONGC's intranet. The SOPs are regularly reviewed in order to incorporate latest standards, OEM (Original Equipment Manufacturer) guidelines or any new process/ facility that is added.
- ONGC follows Ten Safety Rules which are based on international guidelines and practices. These Safety Rules are being followed in ONGC by all employees and contractual workforce. Regular awareness programs are held especially for contractual work force on these Safety Rules. Standing Instructions to ensure strict adherence to the Ten Safety Rules have been issued.
- Data analysis is being carried out regarding the causes of the past accidents and correlating the same to the pending audit observations, availability of Safety Critical Equipment and the risk registers of the Installations. Based on this data analysis, the Predictive Safety Alerts are prepared and issued to bring out the perceived risk of accidents at the installations for taking timely action for risk mitigation.

c) Best Practices

- All jobs are carried out after conducting Job Safety Analysis (JSA) and Tool Box Talk (TBT) before start of work in every shift. In the JSA and TBT, the standard operating procedures and safety measures to be taken for carrying out the jobs are discussed for strict adherence during operations.
- To ensure adequate safety and operability during the life cycle of oil and gas wells, safety critical barriers are kept as per recommended practices on Well Integrity specified in OISD-RP-238 of OISD. It is always ensured that minimum two effective barriers are available in the flow path of oil and gas wells.
- Various steps of cementation like preparing cement slurry, pre-cement job arrangements, job execution, after job testing of cementation strength, etc., are carried out as per the Cementing Operations standard OISD-STD-175 of OISD.
- Workover operations are carried out for maintaining, restoring or increasing the productivity/injectivity and also for abandonment of well(s). The workover operations at offshore and onshore oil and gas wells are carried out as per guidelines under OISD-GDN-182 on Safe Practices for Workover and Well

Stimulation Operations. Safe practices related to personnel, equipment, operations and maintaining well integrity are followed as per these guidelines.

- Managing annular pressure in flowing/ non-flowing wells is critical to well integrity as well as to the safety of personnel, property and the environment. OISD-GDN-239 on annular casing pressure management for onshore wells is followed for keeping suitable barriers in place, carrying out diagnostic tests, mitigating causes of pressure build up, periodic pressure recording, etc.
- ONGC has indexed the HSE performance for all Rigs/ Installations in which the Rigs/ Installations have been benchmarked on various HSE parameters like detection and suppression system, environment parameters, evacuation systems, equipment integrity, etc. HSE Index is a self-evaluation tool for all type of installations where data is updated by the Rigs/Installations on monthly basis.
- Robust incident management system is in place which makes it mandatory for all work centers to report all types of incidents categorized as Near Misses/Minor/Major/Fatal. The accidents are investigated by a multidisciplinary team, to establish the root cause, suggest remedial measures. On the basis of accident investigations, safety alerts are widely circulated to disseminate lessons learnt from the accident across the organization and in order to avoid the recurrences.
- Weekly safety meeting are being conducted at all Rigs and Installations. Loss Control tours are conducted by Mines Managers under their jurisdiction regularly.

d) Fire Protection Systems

- All Drilling Rigs, Work-over Rigs and Production Installations have in built fire safety management systems to prevent and tackle fire incidents. The design criteria and minimum requirement of fire protection facilities at Rigs/ Production installations are maintained as per OISD-STD-189.
- Hydrocarbon leak detection systems for early warning & responsive action are installed at all strategic locations at workplace
- Fixed & mobile fire-fighting equipment. Modern fire-fighting/ protection gadgets like High Volume Long Range Monitor (HVLRM), Medium Expansion Foam Generator (MEFG), Remotely operated shutoff valves (ROSOV)

e) Competency Building

- Mines Vocational Training (MVT) is provided to staff level employees and contractual persons at the respective Group Vocational Training Centers (GVTCs), duly approved by DGMS. Contractor's Safety Workshops are conducted for safety awareness among contractors.
- Mandatory well control trainings of IWCF (International Well Control Forum) and IADC (International Association of Drilling Contractors) are being provided to the concerned personnel working in drilling/ work-over operations.
- All Offshore employees have to mandatorily undergo Sea Survival and Safety, Helicopter Underwater Egress Training (HUET) and basic first aid trainings apart from having medical fitness. Additionally, internationally acclaimed NEBOSH (National Examination Board in Occupational Safety and Health) certificate and diploma courses on safety are also conducted for field safety officers.

- Driller, Assistant Drillers, Rig I/c (including Contractual) and Installation Managers are having mandatory Well Control training certificate (in line with clause 8.1 of OISD-RP-174).
- Competency of all working crew including key personnel is verified. During the process all the personal documents, experience certificates, educational certificates, training certificates (required as per OISD and DGMS guidelines) are verified. Credentials of Charter hired contract crew are verified before approving (formally in writing) and deploying them for operations.

f) Audits and Inspections

- Regular Internal Safety Audits (ISAs) are being conducted depending upon the risk matrix of the installations.
- Oil Industry Safety Directorate (OISD) & Directorate General of Mines Safety (DGMS) are regularly conducting Safety Audits/ Inspections at different installations. The observations and contraventions raised are addressed on priority and compliance is monitored at Top Management level.
- Audit by third party like DNV, BV for fit for purpose certification of topside facilities
- Third party Management System audit for QHSE certification
- Class Certification Audits for MODUs and vessels
- Compliance to Audit recommendations mapped in SAP

g) Safety in Offshore Operations

- All Offshore Installations/Rigs obtain Consent to Operate from Oil Industry Safety Directorate (OISD) after critical examination of all safety requirements as per Safety in Offshore Operations Rules 2008.
- A comprehensive Safety Management System across all of the offshore platforms (inc. Permit to Work and Lock Out/ Tag Out), Simultaneous Operations (SIMOPs) matrix and procedure, and a Management of Change procedure.
- OPITO approved training for Offshore Installation Managers(OIMs) and senior staff on the platforms
- Offshore rigs/ installations/ vessels also follow international guidelines related to MODU (Mobile Offshore Drilling Unit), SOLAS (Safety of Life at Sea) & IMO (International Maritime Organization). For helicopter operations, DGCA's (Directorate General of Mines Safety) regulations and ONGC's Aviation Standards 4 (AS 4) are followed.
- Marine Operations Manual provides guidance on safety management during all marine operations and activities related to supply vessels etc. This manual is based on best practices and is regularly updated. International guidelines from IMO (International Maritime Organization), IMCA (international Marine Contractors Association), UKOOA (UK Offshore Operators Association) incorporated.
- Platforms designed as per International standards like API RP 14J, API RP 14C, SOLAS, NFPA etc. for risk mitigation through Engineering control.
- Regular drills carried out on the installations for scenarios under emergency response plan and Regional Contingency Plan including oil spill response.
- Adequately maintained Fire and Gas detection and suppression facilities available on the installations.

- Life saving and evacuation equipment are available which are inspected and maintained as per documented schedules.
- To combat oil spills in offshore areas, ONGC has developed its own Tier-I (up-to 700 tons of oil spill) Oil spill response facility on-board Multi Support Vessels (MSVs) in Western Offshore which are available to cover the entire operational area. For Tier-II (up to 10,000 tons oil spill) Oil spill response ONGC uses its own capabilities as well as mutual aid partners and Indian Coast Guard. To address larger oil spill of Tier-III level (more than 10,000 tons oil spill), ONGC has an Agreement with M/s Oil Spill Response Limited (OSRL), UK which is an expert agency in combating major oil spills of Tier-III level.

h) Disaster/ Emergency Plan:

ONGC is having three tier system of handling the emergencies depending on the severity of events, disasters as below:

1. ERP (Emergency Response Plan) of the installation
2. a) Offsite & Onsite DMP (Disaster Management Plan) for onshore
b) RCP (Regional Contingency Plan) for offshore
3. CDMP (Corporate Disaster Management plan)

Corporate Disaster Management Plan (CDMP)

- Corporate DMP is activated by the CMD, ONGC as and when, in his opinion, a National level intervention is required for handling the crisis. After activation, Corporate Disaster Management Group (CDMG) comes into action and Corporate Emergency Control Room (CECR) start functioning at Delhi. The function of the CECR is not only coordination of disasters/national crisis, but also for communication mechanism for accident reporting to MOPNG and apprising the same to EC.
- Director – I/C HSE, being the nodal officer for coordination of action on disaster/ crisis management at the corporate level, is Corporate Chief Emergency Coordinator (CCEC) and interacts with the various wings of the Govt. of India for the Crisis/Disaster management related with cyclone.
- For Offshore Emergency, the senior most Asset Manager shall be the Chief Emergency Coordinator (CEC) and in his absence the next Senior Asset Manager shall be the CEC. In case CEC considers the requirement to activate the RCP, he shall request the Chairman, Regional Contingency Committee (Flag officer commander-Western Naval Command) to activate RCP and inform the same to CDMG.
- For Onshore, the Asset Manager/Basin Manager is the Chief Emergency Coordinator (CEC)

Regional Contingency Plan for Offshore

To deal with the uniqueness of the offshore industrial environment and the need for timely and adequate response to various contingences, a Regional Contingency Plan (RCP), is in place. The RCP is updated every year and vetted by the Regional Contingency Committee (RCC) – West of Western Naval Command. The RCP derives its authority from the Offshore Security Coordination Committee (OSCC), which is the apex body for reviewing and evaluating offshore security in India. The committee comprises of members drawn from Indian Coast Guard, Navy, Air force, IB, MEA,

Police and ONGC. The committee meets every six months to examine issues related to the safety and security of Offshore Assets.

Emergency Response Plan – Site

The Emergency Response Plan (ERP) is site specific and the installation manager is the emergency coordinator. In this level of emergency, the response is site specific where site personnel are involved and it takes into account the proposition that the situation is controllable with the help of resources available at site. This plan ensures that the emergency response of personnel within the installation would be able to contain and deal effectively with the disaster and its aftermath.

Barge P-305 incident on Western Offshore during Cyclone Tauktae in May, 2021

1.8 Western Offshore was hit by the Cyclone Tauktae during 16th-17th May'2021. The severity & intensity with which Cyclone Tauktae hit the west coast during 16th - 17th May'2021 was quite unprecedented for western offshore.

1.9 Emergency struck in the morning of 17th May'2021 when Barge P-305 (deployed by M/s Afcons) informed at 07:14 hours that it had lost all anchors and was drifting towards HS-wellhead platform. At 09:35 hours of 17th May'2021, information was received about Barge P-305 hitting wellhead platform HC. Barge reported starboard side damage and requested for assistance. ONGC immediately diverted all MSVs/OSVs present in the field towards the barge for assistance and Indian Navy also directed INS Kochi. INS Kochi reached P-305 location at 15:30 hours and was alongside P-305 but could not undertake any immediate rescue measures due to inclement weather. Around 18:00 hrs. Barge P-305 reported tilting on one side and by 19:05 hours, it sank.

1.10 When the Committee enquired about the information on the Cyclone Tauktae incident, the Ministry of MoPNG furnished the following information in its written reply:

“Tauktae Incident

ONGC is engaged in oil and gas exploration and production operations at Indian western offshore. The offshore infrastructure as on 14th May'2021 included 14 process platforms, 2 Floating Production & Storage (FPSO) units, 1 Floating Storage and Offloading (FSO) and 229 unmanned platforms; 25 Drilling Rigs; 50 offshore Vessels. To support offshore project works 22 Barges were deployed. A total of 7,675 personnel were in the field on these installations, vessels and barges during the incident.

Relief and Rescue Operation:

On getting the information of emergency at Barge P-305, ONGC immediately diverted 3 Multi Support Vessels (Hal Anant, Nusantara and Oceanic installer), 3 Offshore

Supply Vessels (Ocean Energy, Ahalya and Sapphire) and one Fire Fighting Support Vessel Priya-27 available in field to respond to the emergency call of P-305 and to provide the necessary assistance. However, immediate rescue measures could not be undertaken due to inclement weather. Assessing that situation at high sea was going out of ONGC's capability to control, ONGC, at around 0900 hours, informed to Maritime Rescue Coordination Centre (MRCC) –West and Head of ODAG as per Regional Contingency Plan (RCP) requesting them to deploy resources to assist the barge. ONGC again informed at 09.35 hours, Rear Admiral – Flag Officer, ODAG and Indian Navy about the worsening situation and requested to send more resources from Indian Navy to respond to emergency situation especially in light of worsening weather situation. MRCC immediately deployed the resources to handle the emergency call of Barge P-305.

Total 261 persons were on board Barge P-305. ONGC instructed MSVs Hal Anant, Nusantara, Oceanic installer, FFSV Priya-27, OSVs Ocean Energy Ahalya and Sapphire, to proceed towards barge location. Naval Ship INS Kochi departed at 11:30 hours to proceed towards barge location. INS Kochi reached P-305 location at 15:30 hours and was alongside P-305 but could not undertake any immediate rescue measures due to inclement weather. Around 19:00 hours INS Kolkata joined INS Kochi in Search & Rescue Operations (SAR) along with ONGC Vessels which were already there. By 21:00 hours of 17th May'2021, 57 persons were rescued. SAR continued throughout the night and by 05:00 hours of 18th May'2021, 132 persons were rescued and by the 21:55 hours of 18th May'2021, a total of 188 persons including 2 persons of (Anchor Handling Tugboat) AHT Varaprada were rescued in SAR operation by Indian Navy, Coast Guard and ONGC. 136 persons were rescued by Indian Navy and 52 were rescued by ONGC vessels.

Varaprada hired by M/s Afcons for towing, maneuvering and anchor handling of barge Gal Constructor had towed barge GAL Constructor from Mumbai High field to safe location at Mumbai Port anchorage. The contractor (M/s Afcons) vide e-mail dated 18.05.2021 informed ONGC that contact with AHT Varaprada has been lost since 17.05.2021. M/s Afcons further mentioned that apparently owner of vessel is also not able to contact and also do not have any message or SOS message. As informed by Navy on 21.05.2021, Tug Varaprada sank in position 19 deg 00.21N, 72 deg 30.83E (approximately) on 17.05.2021 in about 15-20 mtrs depth of water. Total person on board Varaprada on 17.05.2021 was 13. INS Kolkata, enroute to P-305 on 17.05.2021 for rescue operation rescued 2 persons of AHT Varaprada near Mumbai anchorage. Out of 11 Brave Nature's Victims (BNVs) from Varaprada, 8 BNVs have been identified and handed over to family members and identification of balance 3 BNVs is in progress.

5 persons who sustained injuries were admitted to hospitals and have since been discharged. There were 75 Brave Nature's Victims (BNVs) from P305 and 11 BNVs from Varaprada. As on 19/07/2021, 68 Brave Nature's Victims from Barge P-305 have been identified and DNA identification of remaining 7 Brave Nature's Victims (BNV) is in progress. Out of 11 BNV from Varaprada, 8 BNVs have been identified and handed over to family members and identification of balance 3 BNVs is in progress".

Events during the cyclone Tauktae

1.11 On being enquired by the Committee about the incidents/mishaps occurred during the last 10 years in the offshore area, the Ministry in its written reply submitted as under:

"During last ten years such type of incidents/mishaps due to cyclones involving barges have not occurred.

The first warning about the Tauktae cyclone was issued by the MET Department on 11th May, 2021. Thereafter, cyclonic alerts were issued again from 13th May, 2021".

1.12 When asked to explain the sequence of events and the steps taken by ONGC to coordinate with other safety and security related agencies for the safety of Papaa-Barge-305, the Ministry in its written reply submitted the following information:

"When Emergency struck in the morning of 17th May, ONGC immediately diverted 3 Multi Support Vessels (Hal Anant, Nusantara and Oceanic installer), 3 Offshore Supply Vessels (Ocean Energy, Ahalya and Sapphire) and one Fire Fighting Support Vessel Priya-27 that were available in field to move towards the barge to provide the necessary assistance but could not undertake any immediate rescue measures due to inclement weather. Assessing that situation at high sea was going out of ONGC's capability to control, at around 09:00 am ONGC informed Maritime Rescue Coordination Centre (MRCC) –West and Head of ODAG as per Regional Contingency Plan (RCP) requesting resources to assist the barge. ONGC again informed Rear Admiral – Flag Officer, ODAG and Indian Navy about the worsening situation at 09.35 am and requested to send more resources from Indian Navy in overcoming the crisis situation in offshore. RCP West activated immediately and resources were deployed towards search and rescue (SAR) operations.

PAPAA -305 was in contact with Heera & Neelam control room and radio room. On receipt of call from PAPAA -305 about assistance, Vasudhara Control room was informed by Heera and they in turn informed ODAG control room. Subsequently RCP was activated. As barge PAPAA 305 started drifting, Field Radio Officers were in constant touch with PAPAA -305".

1.13 Explaining further about the Tauktae cyclone, the representative of the ONGC during oral evidence submitted that:

"यह सही है कि एक बहुत बड़ा एक्सीडेंट हुआ है। कोई न कोई कमी रही है, तभी वह एक्सीडेंट हुआ है। जो स्पेसिफिक क्वेश्चन्स उठाए हैं, उसमें एक तो यह था कि पहले एडवांस वार्निंग थी, उसके बावजूद वह शिप वहां रहा। हालांकि उसके बारे में प्रेजेंटेशन में थोड़ा एक्सप्लेन किया गया था और सचिव महोदय ने भी उसको एक्सप्लेन किया। 11 तारीख से पार्टिक्युलरली साइक्लोन के बारे में एडवांस वार्निंग आनी शुरू हुई थी। 13 तारीख तक यह हो गया था कि adequate steps need to be taken for evacuation. 14 तारीख को सभी

इंस्टॉलेशन को, क्योंकि यह स्पेसिफिक हादसे का टारगेट बनी है, जैसे 243 हमारी अपनी इंस्टॉलेशन हैं, लगभग 7500 लोग उस दिन थे, किसी भी समय मुम्बई हाई में, लगभग 40 हजार वर्ग किलोमीटर का एरिया है, उसमें सब इंस्टॉलेशन पर एडिक्ट प्रिपेयर्डनेस की गई थी। जहां तक प्लेटफार्म्स की बात है, उनकी कैपेसिटी विद्वैत करने की ज्यादा है। जो फ्लोटिंग पिसिस ऑफ इक्विपमेंट है, उनका थोड़ा सा एक डर रहता है कि ये कहीं मूव करेंगी। इस कक्षा में लगभग 22 वेसल्स थे, जो बार्जेज हैं। बार्जेज बिना इंजन के होते हैं। They are mostly meant for carrying out activities relating to construction and repair. हमने अपनी इंस्टॉलेशन का एक मेजर लाइफ अपग्रेडेशन का प्रोजेक्ट चलाया हुआ है, जिससे कि प्लेटफॉर्म सेफ रहें। उसके लिए ये सब बार्जेज काम कर रहे थे, खासकर एफकॉन्स के। सभी को 14 तारीख को वहां से निकलने की इंस्ट्रक्शन्स दे दी गई थी और उनको छोड़ भी दिया गया था”।

1.14 When the Committee asked about the delay in obtaining help from Indian Navy, the representative of the MoPNG during oral evidence submitted that:

“... यह आया था कि नेवी क्यों लेट हुई, मैं यह स्पष्ट कर रहा हूं कि नेवी ने बहुत अच्छा काम किया है। हमने बाद में उसकी प्रशंसा की भी है कि नेवी के लोगों ने बहुत अच्छा काम किया और जो लोग फ्लोट कर रहे थे, उन्हें बचाया है। इतने लोग बचाये गए, वह नेवी और कॉस्ट गार्ड दोनों के एफर्ट्स थे। उसके बाद रिलीफ के बारे में भी प्रश्न है। अभी भी कुछ बॉडीज़ मिसिंग है या क्या है, वह नम्बर्स भी स्पष्ट कर देंगे। वैसे प्रेजेंटेशन में भी बताया गया कि बॉडीज़ तो मिल गई हैं, क्योंकि बॉडीज़ की हालत कुछ खराब हो जाती है, इसलिए हम आइडेंटिफाई कर रहे हैं। डीएनए एनालिसिस से आइडेंटिफाई किया जा रहा है, जो बच गई। उनमें कुछ हैं, जो आइडेंटिफाई नहीं हुई है, क्योंकि बॉडीज़ बहुत दूर-दूर मिली है। कई जगह यह भी डाउट होता है कि जो बॉडी है, वह इस हादसे की है या वह किसी और हादसे की बॉडी है। इस वजह से कुछ बॉडीज़ अभी भी आइडेंटिफाई नहीं हुई हैं, लेकिन अधिकांश डीएनए टेस्ट इत्यादि से आइडेंटिफाई हो गई हैं। उसमें पुलिस इत्यादि पूरा कार्य कर रही है। रिलीफ के बारे में ओएनजीसी वाले डिटेल में बताएंगे, क्योंकि एफकॉन्स और इश्योरेंस सभी तरह से रिलीफ दिया गया है। जो ओएनजीसी ने दिया है, वह तुरंत राहत के फॉर्म में है, ताकि फैमिलीज़ को तुरंत कुछ पैसे चाहिए होता है, तो उनको तुरंत मिल पाए”।

Elaborating further:

“नेवी और कॉस्ट गार्ड ने तुरंत एक्शन लिया है। उनके जो भी शिप्स जहां-जहां थे, वह जो भी भेज सकते थे, उन्होंने तुरंत भेजे। परंतु उस समय स्टॉर्म की इंटेन्सिटी इतनी अधिक थी, वेव 10 से ज्यादा मीटर के उठ रहे थे और हवा भी बहुत तेज थी तथा अंधेरा भी होने लग गया था। नेवी की शिप इस बार्ज के नजदीक पहुंच गई, कॉस्ट गार्ड भी पहुंच गए, लेकिन वह आगे नहीं जा पा रहे थे। अभी तक सिंक नहीं हुआ था, हम भी मॉनीटर कर रहे थे, अभी सिंक हुआ नहीं था और 261 आदि जितने भी लोग थे, वे सारे बार्ज के ऊपर थे। नेवी की शिप तब तक बहुत नजदीक पहुंच गई थी, परंतु आगे जा नहीं पा रही थी। एक रेस्क्यू बोर्ड उन्होंने पानी में उतारा, लेकिन वेव इतनी तेज थी कि उसी का पता नहीं चला कि वह कहां है। नेवी काफी प्रयास करती रही कि कैसे हम उसको रस्सी से डाल कर अप्रोच करें या जाएं, उन्होंने काफी प्रयास किया। फाइनली जब सिंक करने की स्थिति आ गई तो बार्ज कैप्टन ने बोल दिया कि शिप अबैन्डन कर दो। शिप अबैन्डन करने की वार्निंग दे दी। जितने लोग बचे हैं, मैं उनकी भी बहुत प्रशंसा करना चाहूंगा कि उन सब ने अपनी लाइफ जैकेट इत्यादि के साथ सी में जम्प लगा दी और कई घंटों तक पानी में वह तैरते रहे”।

1.15 The Committee enquired about obtaining information on Weather bulletin and advisories by ONGC and whether the information was sought from agencies like the Navy and the Coast Guard, the Ministry in its written reply submitted the following information:

“ONGC received the weather advisory on 13th May 2021 from Maritime Rescue Coordination Centre (Mumbai) (MRCC) that works under Indian Coast Guards. The system for obtaining weather forecast by ONGC does not envisage seeking the information regarding the direction and intensity of cyclone from Navy.

Weather bulletin and advisories issued by IMD, the National Weather Forecaster under the Ministry of Earth Sciences, are followed during adverse weather situation from their website.

To get daily updates on weather / cyclone forecast, Marine Survey Division of Offshore Engineering Services of ONGC has a contract with M/s Skymet. These forecasts and special bulletins issued by Skymet are intimated to specified recipients viz. Vasudhara Radio-room (Commission-1), Rig Move cell, Kakinada Radio room and Marine survey division of Offshore Engineering services.

Advisories were issued by M/s Skymet on 12th and 14th May'2021. IMD advisories of 11th & 13th May'2021 were also accessed from their website.

Following weather forecasts issued by various agencies:

- MRCC advisory of 13.05.2021.
- IMD Advisory of 11.05.2021 and 13.05.2021 (Press Release)

- M/s Skymet Advisory of 12.05.2021 and 14.05.2021”

1.16 Asked by the Committee to explain about the coordination amongst various agencies involved in rescue efforts, the representative of the Ministry of Shipping (MoS) during the oral evidence stated that:

“कॉर्डिनेशन लेवल की मीटिंग माननीय मंत्री जी के लेवल पर हुई थी। तीन-तीन माननीय मंत्रियों ने ऑनलाइन पब्लिक मीटिंग ली थी। जिसमें FICCI, ASSOCHAM और सभी राज्य इन्वॉल्व थे। सेक्रेटरी लेवल पर मीटिंग हुई थी, जिसमें बहुत सारे सेक्रेटरीज थे। डीजी लेवल पर मीटिंग हुई थी। सिचुएशन रिपोर्ट्स लगातार जारी किए जा रहे थे। ओएनजीसी से यह पूछा भी गया था कि आपने इस साइक्लोन के मद्देनजर क्या तैयारी की है? कॉर्डिनेशन की कमी उस हिसाब से नहीं थी, कॉर्डिनेशन की कमी यह थी कि किस का अधिकार क्षेत्र क्या है? ईस्ट-कोस्ट में जो साइक्लोन आ रहा था, उससे पहले कमेटी ने पहली इंट्रीम रिपोर्ट दी थी। इंट्रीम रिपोर्ट में कॉर्डिनेशन के बारे में में बताया गया है और जो यास साइक्लोन आया, उसको फौलो भी किया गया, उसके लिए प्रीकॉशनरी मेजर्स लिए गए, तो वहां पर उसका नतीजा अच्छा निकला। ऑलरेडी मिनिस्ट्री ऑफ शिपिंग ने उसको नोटिफाई किया है, और साइक्लोन पर एक बार काम भी किया गया है। होपफुल्ली, अब कॉर्डिनेशन और बेटर होगा”।

1.17 When asked about the number of personnel were on board the Barge P-305 at the time of disaster along with the details of the persons deployed on the Barge P-305 from 10th to 16th May, 2021, the Ministry in its written reply submitted as under:

“At the time of disaster, there were a total of 261 persons were on board. M/S Afcons have been advised to provide the further details. Matter is being pursued with Afcons to submit these details at the earliest.

Roster is maintained as per contract provision entered by LSTK contractors with barges. It is standard industry practice to maintain a daily Persons On board (POB) record with each vessels/platforms/Rigs”.

1.18 The Committee wanted to know as to whether standby vessels as per the operation manual were available for P305 for any emergency, the Ministry in its written reply submitted as under:

“Yes, Anchor Handling Tug “Nove” was available with P-305. Non-propelled barge has one associated Anchor Handling Tug (AHT) for Anchor Handling and infield movement.

This AHT works as standby vessel for any emergency. In the present case, Anchor Handling Tug "Nove" was available with P-305".

Elaborating further during the oral evidence:

"... मैं बताना चाहूंगा कि वह बार्ज मोबाइल नहीं है। इन बार्जेज का इंजन नहीं होता है, इसलिए इस तरह की आपदा में वे स्वयं कहीं जा नहीं सकते। 99 प्रतिशत बार्जेज, जहां तक मुझे पता है, वे बिना इंजन के होते हैं, उनको वहां छोड़ दिया जाता है और उन पर काम होता है। इस पर्टीकुलर बार्ज के साथ, इन एडिशन एक पर्टीकुलर वेसल डेडिकेटेड था, जिसका नाम था - नोब । वह आईडेंटिफाइड वेसल था, उसमें इंजन था। जैसे एक बड़ा ट्रक होता है, उसमें इंजन लगाया जाता है, उसी तरह से that was the vessel which was to be used to take it away. लेकिन उस समय तूफान की जो स्थिति बनी, वह वेसल वहीं होने के बावजूद इस स्थिति में नहीं था कि इससे कनेक्ट हो पाए। वह वेसल वहीं पर रहा और उसके बाद उसने रेस्क्यू ऑपरेशन्स में भी काम किया। इन फैक्ट, उस समय वहां ऐसी गंभीर स्थिति थी कि आई.एन.एस. कोच्चि और आई.एन.एस. कलकत्ता भी वहां पहुंचकर चार घण्टे तक खड़े रहे। हमारे सात-आठ वेसल्स वहां खड़े थे और हमें जो सेफ एडवाइस नेवी से मिली, वह यह थी कि आप नजदीक मत जाइए, अन्यथा और बड़ा हादसा हो सकता है। जब ऐसा हुआ कि यह बार्ज डूबने की स्थिति में आ गया, तभी नेवी ने एडवाइज किया कि आप आगे जाइए because there is no other option. यह स्थिति की गंभीरता थी और वह 'नोब' वेसल भी वहां पर था, लेकिन वह वहां तक भी नहीं पहुंच पाया कि उस बार्ज को हेल्प कर सके"।

1.19 On being enquired by the Committee about the action taken by ONGC upon received e-mails from the offshore vessels, the Ministry in its written reply submitted the following information:

"ONGC was in continuous communication with barge P-305 w.r.t to barge position and barge pulling out to safe location.

Contractor M/s Afcons vide their letter dated 14.05.21 had informed ONGC that due to the cyclone warning and based on the severity of the storm, they may be required to pull out the barges/work boats from the respective platform and anchor them at nearby safe location. Barge Masters of 4 barges out of 6 barges, moved the barges to Mumbai anchorage. One barge was demobilized from the location on 15.05.2021 and was on way to Mumbai anchorage.

M/s Afcons confirmed vide email dated 14.05.21 "Due to Cyclonic weather conditions P-305 will be moving to outer anchorage - clear of installation area".

Heera platform accordingly issued the work permits for anchor handling as requested by P-305 & another M/s. Afcons's barge Trinitinissi (working at HE Platform) on 14.05.21.

It is important to mention here that all barges that were in the field were given the same instructions and accordingly they pulled out including barges of M/s Afcons. Barge P-

305 was also given the same instruction to move to safe location as evident from communications mentioned above. It was a call taken by barge master to remain in the field at a location, he considered safe. Here, it is pertinent to mention that the decision to position the vessel keeping in view the safety of ship and personnel on Board lies with the Barge Master as per Clause 3.5.4 and 11.2 of ONGC's Marine Operations Manual and also as per Regulation 34 – 1 of Safety of Life at Sea (SOLAS) (international convention based on IMO (International Maritime Organization) guidelines) "The owner, the charterer, the company operating the ship as defined in regulation IX/1, or any other person shall not prevent or restrict the master of the ship from taking or executing any decision which, in the master's professional judgment, is necessary for safety of life at sea and protection of the marine environment".

1.20 The Committee sought to know as to whether the Navy was asked to guide Barge or Vessels during the adverse weather conditions, the Ministry in its written reply submitted as under:

"For emergencies during adverse weather conditions, ONGC informs Maritime Rescue Coordination Centre (MRCC)–West and Head of Offshore Defence Advisory Group (ODAG) as per Regional Contingency Plan (RCP) requesting for resources and assistance for safety and security of vessels/barge. The Indian Coast Guard or Navy take their actions as per RCP".

1.21 The Committee wanted to know why Barge P-305 could not be evacuated in time with the help from Indian Navy, the representative of the ONGC during oral evidence submitted that:

"...मैं बड़ी स्पष्ट बात कर रहा हूँ कि उसको वहां से निकाला क्यों नहीं गया? उसको निकालने की कैपेसिटी किसी में थी या नहीं थी। जैसे जिस टाइम यह एक्सिडेंट हो गया, उसी समय जैसे यह हुआ, उस टाइम हमने नेवी को भी कहा, कोडैक सब इन्वॉल्व थे। नेवी के दो वैसल लगभग दो-ढाई बजे पहुंच गए थे और उसके बावजूद जो हालात उस टाइम थी, सात मीटर की लहरें थीं, कोई उसके नज़दीक जाने के लिए तैयार नहीं था, In fact, they advised our vessels also not to go near because it could have caused another accident. वह सिर्फ उस टाइम तक उन्होंने प्लंज्ड किया जबकि यह तय हो गया कि there is no other way. तो जो हालात थे, under these circumstances, everybody goes in self-survival mode. किसी के पास भी क्षमता नहीं थी। नेवी से ज्यादा सक्षमता तो ओएनजीसी के पास या किसी दूसरी एजेंसी के पास हो नहीं सकती है। तो उनके पास भी यह नहीं थी कि वहां खड़े होने के बाद भी, चार-साढ़े चार घंटे उन्होंने इंतज़ार किया। जब वह डूब गया, तब उन्होंने लोगों को हटाना शुरू किया तो यह किसी तरह का भी एक्शन एटलीस्ट हमारी कैपेसिटी में तो है ही नहीं। क्योंकि हम मरीन कम्पनी तो नहीं हैं। लेकिन हमें नहीं लगता कि किसी के पास भी

या यह रिक्मेंडिड होता या किसी के पास भी ऐसी कैपेसिटी थी कि उसको खींच कर यदि वह नहीं ले जा रहा है तो खींच कर कोई बाहर ले जाता। तो यह जो लॉ बना होगा, इंटरनेशनल लॉ ऑफ सीज़ होगा। Most probably, it is also taking into the same set of factors. यदि वैसल मास्टर खुद ही नहीं निकलने को तैयार और निकल सकता है”।

1.22 The Committee sought to know as to whether the life raft which were certified and available in Barge P-305 were tested under rough waters and cyclonic weather with speedy winds and heavy rain falls as these are to be used under such conditions, the Ministry in its written reply submitted as under:

“All the life rafts of barge P- 305 were tested and certified in compliance to the requirement of Resolution A.761 (18) under International Convention of Safety of Life At Sea 1974 (SOLAS)

Annual service of Life rafts was done as per regulatory requirements through agency certified by DG Shipping and in this case the life rafts were serviced by Singh Hindustan Marine Pvt. Ltd. on 01/09/2020 which is certified agency by DG Shipping. Service certificate is valid for 12 months.

Life rafts are meant for one time launch/ usage and required to be sent to workshop once it is inflated”.

1.23 When asked to furnish the call log of the captain of Barge P-305 and the ONGC Emergency Response Centre during the period of the cyclone Tauktae, the Ministry in its written reply submitted as under:

“ONGC Vasudhara Radio room, Mumbai base, on 13th May 2021 mailed the weather advisory from Maritime Rescue Coordination Centre (Mumbai), India (MRCC) to all the Offshore Platforms and Rigs.

All barges in the field were instructed over radio communication to plan for movement to safe location in view of the impending cyclone. It was confirmed by different contractors including M/s AFCONs to ONGC that they are withdrawing their barges to safe location due to the cyclone warning. M/s AFCONs informed to ONGC that due to the cyclone warning and based on the severity of the storm, they may be required to pull out the barges/work boats from the respective platform and anchor them at nearby safe location. M/s AFCONs conveyed that “All barges pulled out from all platforms and on weather standby” as per the message received on the project WhatsApp group”.

1.24 When asked about the decision taken at high level meeting held by ONGC about the impending cyclone and to furnish a copy of the minutes of the meeting, the Ministry in its written reply submitted as under:

"ONGC initiated action to deal with any emerging situation in view of impending cyclone warning/advisories received/accessed from various agencies. IMD issued first advisory (press release) on 11th May 2021.

Joint Operation Review Meeting (JORM) was conducted on 12th May 2021. IMD advisory and advisories from M/s Skymet on cyclone Tauktae was discussed. The urgency of cyclone preparedness was deliberated by all key and senior officers of the Mumbai region.

After the JORM on 12th May 2021, the weather advisories were conveyed to all the Platforms, Rigs and Vessels.

1. All offshore installations and vessels were cautioned about the impending cyclone and asked to monitor the weather reports and take heavy weather precautions. The Base control room and Rig move cell started monitoring the path of cyclone and started sending alerts at regular interval to all installations.
2. Control Room was started in 11 High on 13th May'21
3. On 15th May'21 meeting with all rig owners and rig managers was chaired by HDS.
4. On 16th May'21 all rigs were asked to go on cyclone survival mode.
5. The Base control room/ radio room was in constant coordination with Rigs, platforms, ODAG (Offshore Defence Advisory Group), Helibase radio room, Nhava radio room

On 16th May'2021, EC (Executive Committee) reviewed the situation regarding movement of cyclone and preparedness for the same.

1.25 The Indian Meteorological Department issued cyclone warning on 11 May, 2021 and the disaster struck on 17 May, 2021. There was sufficient time to initiate preventive measures. In this regard, the Committee wanted to know about the kind of urgent steps taken during this intervening period, the Ministry in its written reply submitted as under:

"Western Offshore was hit by the severity of Cyclone Tauktae during 16th – 17th May 2021. The cyclone severity was unprecedented never witnessed before in western offshore. Cyclone path had shifted significantly on day to day basis from 15th May onwards till 17th May. There was significant shift in severity of the cyclone in terms of wind speed and swell during the said period from the earlier estimates of 13th/14th May 2021. The shifts in forecasted parameters gave very limited window for action by those in field.

IMD advisory of 11th May 2021 indicated likely formation of a low-pressure area over south east Arabian sea around morning of 14th May 2021. The advisory mentioned that it was very likely to move North West wards across south east Arabian sea and adjoining Lakshadweep area and intensify into a depression around 15th May and might intensify into a cyclonic storm over east central Arabian Sea around 16th May and continue to move North West ward. From this advisory, it was observed that western offshore operational area falls outside the predicted area

Based on IMD advisory of 11th May, the respective groups were asked to monitor the weather data closely and take all preventive actions.

Joint Operation Review Meeting (JORM) was conducted on 12th May. IMD advisory of 11th May on cyclone Tauktae discussed. The urgency of cyclone preparedness was deliberated by all senior officers of the Mumbai region. All Platforms/Rigs/ Vessels asked to take action in the wake of cyclone Tauktae. All stakeholders were asked to take all due precautions as per ERP, RCP and CDMP.

Rig move cell issued an advisory on 12th May to all rigs deployed in Western offshore requesting them to be prepared to take precautionary measures as mentioned in the rig-specific Marine Operating Manual / SOP / Cyclone Contingency Plan, as per the emerging situation of cyclone Tauktae.

The weather advisory of 13th May 2021 at 08:30 pm received from Maritime Rescue Coordination Centre (Mumbai) (MRCC) at Radio Room (Commission-One) at Vasudhra Bhavan in Mumbai, was informed to all ONGC Installations, Rigs and Vessels with an advice to take preventive action/measure as per SOP.

On 13th May, all barges in the field were instructed by respective installations over radio communication to plan for movement to safe location, in view of the impending cyclone.

A Control room was set up on 13th May 2021 for monitoring the cyclone and its path / developments and for communication & coordination activities with rigs and other concerned section during this period of cyclonic storm. This is in addition to existing Vasudhara Control Room that works round the clock.

On 14th May 2021 morning, IMD issued 1st Forecast path of Tropical Disturbance. Since then, the forecast tracks were plotted with reference to our rigs and distributed to all rigs.

On 14th May 2021, all the rigs in the cyclone path were instructed to go to storm survival mode. All platforms went into safe mode ensuring the safety of wells, platforms, production, operations and the crew. All Barges in field were asked to move to safe locations.

Permits were issued on 14th May 2021 by Heera control for Anchor handling and moving the barge Papaa 305 from wellhead platform (HT) in Neelam & Heera field. Contractor M/s Afcons vide their letter dated 14th May informed ONGC that due to the cyclone warning and based on the severity of the storm, they may be required to pull out the barges/work boats from the respective platform. Further it was again confirmed by a mail from the barge that due to cyclonic weather conditions Papaa-305 will be moving to outer anchorage clear of installation area.

On 16th May 2021, an Emergency Control Room was set up at Vasudhara Bhavan to coordinate with all installations, ODAG, Commission One Radio Room, Helibase Radio Room and Nhava Radio Room, etc.

Considering the likelihood of cyclone track passing through the field, all rigs were asked to suspend the operations and resort to Cyclone Survival mode as per the

Marine Operating Manual and the same was confirmed from all rigs by Midnight of 16th May, well before cyclone entered the fields on 17th morning.

As per advisory of IMD dated 14th May'21, cyclone path was expected to pass through the west of NBP/ D1 Field (FPSO- Armada Sterling-I) and Cluster – 7 (FPSO - Armada Sterling-II) / MH Field during 17th-19th May'21. As per the cyclone path, the nearest platform in Mumbai High was at a distance of 30 Nm. As per forecast of 14th May'21, the cyclone path was 86 Nm from Heera which shifted further westward as per forecast of 15th May'21 (approx. 105 Nm) but changed to 65 Nm as per forecast of 16th May'21. On 17.05.21, the cyclone path was only 39 Nm from Heera field. Further, as per the forecast of 14/15th May'21 by Skymet (used by ONGC), the wind speed estimated in Heera field was 40 knots. The same wind speed was also predicted by the forecast system of Barge (StormGeo). However, the actual wind speed recorded during cyclonic period was 70-85 knots in Heera field. The cyclone also moved eastwards in western offshore area by about 60-70 Nm (110 to 130 km) with respect to the initial path forecast.

All the Barges and related vessels were instructed to move to safe locations, which was complied by all of them. All the Rigs went into storm survival mode where the operations were brought to safe mode and all the loose material was tightened. All process platforms also moved into safe mode. No personnel was allowed to move to unmanned locations and Chopper services were suspended.

There was unexpected movement of cyclone towards east and increase in severity of cyclone. ONGC was continuously monitoring the situations from 11th May onwards and was taking all the due precautions”.

1.26 The Committee sought to know as to whether any on-site disaster emergency plan was initiated on time, when Indian Navy and Coast guard etc. were called in for help, the Ministry in its written reply submitted as under:

“EC activated Corporate Disaster Management Plan in its special meeting on 16th May itself & rescue operations, on-site disaster management plan were initiated when emergency struck on 17th May 2021 morning when P-305 informed at 07:14 am that it had lost all anchors and was drifting towards HS-wellhead platform”.

1.27 When asked to provide details of the inspection agency and copies of inspection report about the sufficient availability of lifesaving equipment like lifeboats on Barge P-305, the Ministry in its written reply submitted as under:

“There was sufficient lifesaving equipment on board P 305 as per lifesaving appliance (LSA) code. 36 number Life rafts of capacity 25 persons each i.e., for 900 person (thrice the number of approved person on board (POB) were available on board. All lifesaving appliances are serviced as per statutory requirements by M/s Singh Hindustan marine pvt. Ltd.”.

1.28 The Committee sought to know as to whether ONGC has any expertise in meteorology to work in times of cyclones, the Ministry in its written reply submitted the following information:

"ONGC does not have professionally trained personnel in meteorology. ONGC has a contract with M/s Skymet for getting meteorological data and weather forecast specifically for ONGC's area of operations on day to day basis, which is conveyed to all concerned".

1.29 The Committee sought to know as to whether ONGC train its manpower to respond to rescue operations during emergencies like cyclone Tauktae, the Ministry in its written reply submitted as under:

"ONGC has number of vessels operating in the field and in case of any emergency rescue operation, these vessels are immediately mobilised.

ONGC has trained manpower to respond to emergency situation as per OPITO (Offshore Petroleum Industry Training Organization) practices. ONGC employees and secondary workforce working in offshore are imparted training for different emergency situations. Regular mock drills are conducted for continual improvement. ONGC also takes help of external agencies, in case required. The rescue operation in such cases is carried out by Indian Navy and Coast Guard along with ONGC vessels as per Regional Contingency Plan".

1.30 On being enquired by the Committee as to whether the Desk officer of the ill-fated barge P-305 had sought guidance from ONGC to ensure safety of the Barge P-305 and the details of the action taken thereon, the Ministry in its written reply submitted as under:

"The email dated 14th May 2021 (sent at 09:27 am) by Deck Officer was regarding impending cyclone and discussion of IRS Deck Officer with Barge Master regarding movement of Barge to safe distance from platform. ONGC - Project Team received the mail on 15th May 2021 at 08:49 Hrs.

Contractor M/s AFCONS vide their letter dated 14th May 2021 had informed ONGC that due to the cyclone warning and based on the severity of the storm, they may be required to pull out the barges/work boats from the respective platform. Further it was again confirmed by a mail on 14th May 2021 (03:42 pm) from the Barge that due to cyclonic weather conditions P-305 will be moving to outer anchorage clear of installation area.

Work permit was issued by Heera platform for anchor handling on 14th & 15th May 2021. Same permit was also issued for Afcons barge Trinity Nissi. M/s Afcons also informed that "Barge Papaa 305, Trinity Nissi and MP workboat-1 are pulled out from respective platforms and are on weather standby on 16th May 2021".

1.31 The Committee sought to know whether the Barge Captain is the sole deciding authority during an emergency and whether it is justifiable to put lives of so many personnel in the hands of one single person, the Ministry in its written reply submitted the following information:

“The Master of any vessel/barge is the ultimate authority to decide on the safety of vessel and crew onboard. Based on weather considerations, ONGC had advised Barges P-305 to move out of the field and barge had also confirmed that they were moving out of the field. The decision to position the vessel keeping in view of the safety of ship and personnel on Board lies with the Barge Master as per roles and responsibility as per Clause 3.5.4 in chapter 1 and clause 11.2 of Marine Operations Manual. The movement of barge/vessels during bad weather and safe location is decided by Barge Master based on the weather reports and their marine domain expertise. This is an International Convention based on IMO (International Maritime Organization) guidelines which all the concerned parties are to follow”.

Weather Forecasting Services

1.32 Major oil installations in the country are located over Bombay High Region covering eastcentral & adjoining northeast Arabian Sea (AS) along & off Maharashtra & Gujarat coast and another over the Bay of Bengal (BoB) in Krishna-Godavari basin along & off Andhra Pradesh coast. Apart from above there are many oil refineries located along the east and west coasts of India as well as northeastern states of country. The safety and security of oil installations of public sector oil companies depends on many factors including the atmospheric and oceanic conditions over the region. India and the North Indian Ocean (NIO) experience various types of severe weather including tropical cyclones (TCs), depressions, low pressure systems, heavy rainfall, strong winds, rough seas, strong shelf slope current, high waves, astronomical tides and swells affecting the on shore and off shore operations.

Role of India Meteorological Department (IMD) and Ministry of Earth Sciences (MoES) for services to Oil installations of Public Sector Oil Companies

1.33 The IMD is principal government agency in the country in all matters relating to meteorology and allied subjects. Weather forecasting in India commenced with the establishment of IMD in 1875 and since then numerous enhancements and capacity building has been done in this regard. IMD is the nodal agency to provide weather forecasting and cyclone warnings for the country as well as the BoB and AS region. IMD is also the regional centre to provide advisories for the Met Area VIII (N) under Global Maritime Distress Safety

System (GMDSS). IMD also provides sea area bulletins for the ships plying in high seas areas beyond 75 km off the coastline, coastal weather bulletin for the sea area upto 75 km off coastline, port warnings along the coast of India and the Fleet forecast for Indian Navy.

1.34 The forecasts and warnings issued by IMD are very essential for Oil and Natural Gas Corporation (ONGC) operations. The following meteorological services were provided by IMD for ONGC operations till 2010:

- Weather forecast 3 times per day regularly for Mumbai High, Godavari/ Krishna/ Cauvery basins and other fields.
- Special weather forecast at the time of formation of depression/cyclone in the sea round the clock.
- Special weather forecast during monsoon period to give safe passage to the ONGC vessels/rigs in emergency.
- Monthly consolidated report of weather forecast every month and statistical information as required for planning ONGC operations.

However, in 2010, ONGC decided to go for global tendering process to select the service provider. IMD being a Govt agency, it could not participate in the tendering process. Hence since 2010, the services of IMD are not directly catered to ONGC. However, as understood, the monitoring, forecasting and warning products of IMD are used by the ONGC through their service providers.

1.35 On being enquired by the Committee about the weather forecasting agencies utilized by ONGC, the Ministry in its written reply submitted as under:

“India Meteorological Department (IMD) weather bulletin and advisories are followed during adverse weather situation from their website. IMD advisories are broad advisories for the area, not specific to a particular location.

ONGC also has a contract with M/s Skymet to provide field specific weather forecast (three times a day) for areas specific to ONGC operations on Western and Eastern Offshore. Additional advisories are also provided during adverse weather”.

1.36 The Committee sought to know whether ONGC obtain information from well-known global maritime agencies/organizations regarding Tauktae cyclone and the inputs received about the cyclone, the Ministry in its written reply submitted the following information:

“ONGC obtained information on Tauktae cyclone warning from IMD website and MRCC as stated in point no.1 and has a dedicated contract with M/s Skymet Weather Services Pvt. Ltd which is a private Indian company rendering weather forecasting services and provides field specific weather forecast (three times a day). M/s Skymet provides weather service and graphics to most of Indian media companies and major insurance companies in India, power sector and agriculture sector. M/s Skymet has own network of lightning detectors with the collaboration of earth network.

As per information provided by M/s Skymet, it takes help of Doppler radar of India Meteorological Department (IMD) as well as satellite pictures of IMD as a input for weather forecasting model. Subsequently, M/s Skymet runs the WRF (weather research and forecast) model in collaboration with NCEP (National centre for environmental predication- USA) to get the desired weather forecast. WRF has empowered Skymet to give 7 days ahead forecasts of the Asian region updated on daily basis.

M/s Skymet has license of another weather forecasting model with UCAR (University Corporation of Atmos-pheric Research) USA also and model name is Dicast. M/s Skymet has around 7000 AWS (automatic weather stations) in India. Dicast model use Skymet's AWS data along with IMD's data as a input to give more re-liaible weather forecast. Additional advisories are also provided during adverse weather”.

1.37 During the oral evidence, the representative of ONGC submitted that:

“...यहां मौसम की भविष्यवाणी के बारे में कहा गया। हम बेसिकली आईएमडी पर डिपेंड करते हैं। यही देश की सर्वमान्य संस्था है, जिसकी प्रिडिक्शन को अल्टीमेटली फाइनल समझा जाता है। इन एडीशन हमने स्काईमैट को हायर किया है। स्काईमैट और ह्यूस्टन का इश्यु आया था। हमारी समझ के हिसाब से स्काईमैट डाटा तो यहीं का लेता है, उसकी ड्यूटी है, क्योंकि उसे प्रिडिक्ट यहां के बेस पर करना है कि किस तरह का मौसम आएगा। वह दो इंटरनेशनल सॉफ्टवेयर यूज़ करता है। जैसा कि मुझे बताया है कि इसमें इंटरनेशनल पैरामीटर के बेस पर कैसे वैदर होगा, उसके बारे में बताया जाता है। They have the support of two separate software and they predict accordingly. यहां के मौसम के बारे में प्रिडिक्शन रिक्वायर्ड है तो बेस डाटा यहीं का लिया जाता है, लेकिन इंटरनेशनल बैकअप और सॉफ्टवेयर को यूज़ करके फरदर भविष्यवाणी देते हैं”।

1.38 On being enquired about the SKYMET, which is an agency for forecasting and updating weather report for ONGC, basis all its bulletins on the inputs received from IMD. In such a scenario, was it necessary to give this work to Skymet when Indian Metrology department is working well, the Ministry in its written reply submitted as under:

“Skymet's weather forecasts are used for planning day to day activities as IMD does not issue offshore field specific daily weather forecasts with wind, waves, swell etc. which are required for offshore operations.

In case of adverse weather situation, IMD weather bulletins and advisories are also being referred”.

1.39 The Committee wanted to know about the parameters and accuracy of forecast of Skymet, the representative of ONGC submitted that:

"...StormGeo Vs. Skymet जो है, तो हम स्काईमेट को यूज करते हैं। हम कई लोगों की सर्विसेज लेते हैं जो स्टॉर्मजियो को भी यूज करते हैं। यह एक घटना थी। A number of incidents of similar nature have come which were not as grave.

जब उसमें देखा गया और हमने जो कम्युनिकेशन दी है, किसी भी पार्टी ने पलट कर यह नहीं कहा कि उनको स्टॉर्मजियो से कोई सिग्निफिकेन्टली डिफरेंट रीडिंग इंडीकेट हुई है। So, over a period of time, no party has come back. For example, some of the people, who have supplied rigs to us, definitely use StormGeo. But at the end of the day, nobody has come back and told, जो आप कह रहे हैं, उससे मैटेरियल डिफरेंट है। एक-आधा किलोमीटर या नॉट से ऊपर-नीचे रेंज का डिफरेंस होता ही है। वह हर एजेंसी में होता है। Other than that, we have not experienced but we take it very seriously and we will go straightaway for QCBS. So, we are not bothered. As far as safety and security is concerned, cost is not the consideration. We will go for the best. We can assure you that. We have identified these 15-20 small and big points plus whatever points that come from the Consultant and whatever points that arise out of the Committee constituted for this. They will be immediately implemented. स्पेसिफिकली जो दोष वाले हैं, वे इंफार्मेशंस भी दी जाएंगी।"

1.40 The Committee wanted to know as to whether ONGC has analyzed the forecasting received from Skymet after it had entered into contract with it and the success rate of its predictions and whether Skymet has ever been informed of any divergences from their forecasts and what action has been taken in such instances, the Ministry in its written reply submitted the following information:

"There are various weather models available to predict the weather forecast. Weather forecasting agencies use different models to predict the weather.

ONGC has a contract with M/s Skymet for providing normal weather and cyclone advisory since April 2016 rendering weather forecasting services and provides field specific weather forecast (three times a day). It takes help of Doppler radar of India Meteorological Department (IMD) as well as satellite pictures of IMD as a input for weather forecasting model. Subsequently, Skymet runs the WRF (weather research and forecast) model in collaboration with NCEP (National centre for environmental

predication- USA) to get the desired weather forecast. WRF model has facilitated Skymet to give 7 days ahead forecasts of the Asian region updated on daily basis.

Skymet has license of another weather forecasting model with UCAR (University Corporation of Atmospheric Research) USA also and model name is Dicast. Skymet has around 7000 AWS (automatic weather stations) in India. Dicast model use Skymet's AWS data along with IMD's data as an input to give more reliable weather forecast.

Many cyclones have hit the east and west coast of India since then. In all cases, Skymet had predicted about the cyclone and issued cyclone advisory well in advance and so far no divergence has been observed".

1.41 On being enquired about the arrangements made by ONGC to collect weather forecast services since 2010, when it discontinued services of Indian Meteorological Department and opted for tendering, the Ministry in its written reply submitted the following information:

"ONGC had contracted weather forecasting services for the period starting from 2010 as under:-

- i. IMD had provided weather forecasting services from 1st April 2010 to 31st March 2013.
- ii. ONGC awarded contract to M/s Stormgeo, Dubai for Hiring of Services of Weather Forecasting for period 1st April 2013 to 31st March 2016.
- iii. ONGC awarded contract to M/s Skymet Pvt. Ltd for Hiring of Services of Weather Forecasting for period 1st April 2016 to 31st March 2019.
- iv. ONGC awarded contract to M/s Skymet Pvt. Ltd for Hiring of Services of Weather Forecasting for period 1st April 2019 to 31st March 2022".

1.42 The Committee sought to know when did ONGC enter into a contract with M/s Skymet Pvt. Ltd. for weather forecasting services and reasons for the same, the Ministry in its written reply submitted the following information:

"ONGC awarded the contract for Hiring of Services to Skymet on 19.03.2019 for providing offshore weather forecast on day to day basis for operational requirements".

1.43 The Committee sought to know as to whether any tendering process for providing weather forecasting services and number of companies/service providers (both Indian and foreign) participated in the process and, the tender value of the service, the Ministry in its written reply submitted the following information:

"Open Tendering process as per Company policy was followed for hiring of services for weather forecast for a period of 3 years.

Following two bidders participated in the tender

1. Indian - M/s M/s Skymet Weather Services Pvt. Ltd. New Delhi

2. Foreign - M/s StormGeo, Dubai, UAE

Contract was awarded to L1 bidder, M/s Skymet.

Tender value – Rs 84,34,404/-.”

1.44 On being enquired about the criteria for selection of Skymet Pvt. Ltd by ONGC for weather forecasting services and the experience of M/s Skymet Pvt. Ltd on weather forecasting services at the time of selection by ONGC, the Ministry in its written reply submitted the following information:

“Criteria for selection of bidder as per Bid Evaluation Criteria for hiring of weather forecasting services are as under:-

- The bidder should have been in the business of weather forecasting services for at least three years from the date of Technical bid opening (TBO).
- The bidder should have executed three or more contracts during last five years (which shall be reckoned from the date of TBO), for offshore weather forecasting services, with minimum three different clients, for a cumulative duration of not less than two years.

M/s Skymet Pvt. Ltd. submitted following contracts for providing Offshore weather forecast:-

- i. With Indian Oil Corp. Ltd. for 2 years w.e.f. 01.07.2016 to 30.06.2018 for Single Point Mooring installed in offshore at IOCL, Western region pipeline project, Vadinar.
- ii. With Cairn India Ltd. for 2 years w.e.f. 01.06.2015 to 31.05.2017 & extended up to 30th June 2017 for SPM location of Bhogat Offshore.
- iii. With ONGC, Mumbai for 3 years (01 April 2016 to 31 March 2019) for providing Offshore Weather Forecast of 5 location.

M/s Skymet was meeting the experience criteria mentioned in Bid Evaluation Criteria of Tender”.

1.45 The Committee wanted to know why Cyclone Tauktae has been considered of unprecedented nature by ONGC, the representative of MoPNG submitted that:

“...एकचुअली ईस्ट में छोटा या बड़ा यह लगभग हर साल आता है। लेकिन बीच में दो बहुत बड़े-बड़े तूफान आए थे। जहां तक वेस्ट की बात है, वेस्ट में यह अपनी तरह की एक अनोखी घटना थी। इन्फैक्ट वर्ष 2011, 2012, 2013 और 2014 की जो प्रिडिक्शन्स हैं, यदि विंड स्पीड की प्रिडिक्शन्स और रूट्स देखा जाए तो उसमें दिल्ली का जो चेंज हुआ है, वह जिस रेंज में पहले दिखाया गया है और जिस रेंज का अभी आया है, उसमें बहुत ज्यादा अंतर है। ईस्ट के लिए तो यह नोन था कि वहां 100 नॉट्स का आता है, लेकिन वेस्ट में इस तरह का नहीं था। इसको पहले आना था, क्योंकि हमारा पूरा स्टैब्लिशमेंट लगभग 39,600 वर्ग किलोमीटर में फैला हुआ है। इसका जो

पहला प्रिडिक्शन था, यह उसके बिल्कुल बाहर से जा रहा था। उसके बाद थोड़ा और नजदीक आया है। उसके बाद वर्ष 2015 में जो प्रिडिक्शन आई थी, उसमें काफी दूर चला गया था। फिर वर्ष 2016 में हमारी इंस्टॉलेशन के नजदीक आया था। फाइनली जो 2017 में आया था, it has gone direct from wherever the installations are. उसका जो कोर्स और इंटेन्सिटी है, वह बिल्कुल अनप्रेसिडेन्टिड है। इस तरह का कोई भी तूफान उस तरफ नहीं आया है, जिसका कि हमारे पास एक्सपीरियंस या डेटा होता। इसे उस पाइंट ऑफ व्यू से अनप्रेसिडेन्टिड कहा गया था, न कि देश के पाइंट ऑफ व्यू से कहा गया था”।

1.46 When asked to provide details w.r.t. the alerts received by ONGC from Joint Typhoon Warning Centre (JTWC) in the past, the Ministry in its written reply submitted the following information:

“Joint Typhoon Warning Center (JTWC) is a joint United States Navy – United States Air Force command in Pearl Harbor, Hawaii. The JTWC is responsible for the issuing of tropical cyclone warnings in the North-West Pacific Ocean, South Pacific Ocean, and Indian Ocean for all branches of the U.S. Department of Defense and other U.S. government agencies.

ONGC has not received any alerts from Joint Typhoon Warning Centre (JTWC), neither during this cyclone nor anytime in the past”.

1.47 The Committee sought to know as to whether any efforts were made by ONGC to obtain information from Houston weather forecasting system about the cyclone, the Ministry in its written reply submitted the following information:

“ONGC does not have a tie-up with Houston weather forecasting system to obtain weather forecasts. The weather forecast Office Houston/Galveston of National Weather Service (NWS) provides weather, water, and climate forecasts and warnings for the United States, its territories, adjacent waters and ocean areas, for the protection of life and property and the enhancement of the national economy”.

1.48 The Committee sought to know as in 1996, there was cyclone on the Eastern coast with speeds of 200 km/hr and why there was laxity in taking adequate steps by ONGC in controlling a cyclone of 100-120 km/hr, the Ministry in its written reply submitted as under:

“All the necessary & adequate steps were initiated as explained above and there was no laxity.

ONGC was continuously monitoring the situations from 11th May onwards, was taking all the due precautions and initiated actions to deal with any emerging situation in view of impending cyclone warning/advisories received/accessed from various agencies based on the Installations specific emergency response plans. All the advisories were disseminated to all the Installations/Rigs/Barges/Vessels for taking preventive

measures against the impending cyclone. All the precautionary measures were in place”.

1.49 It has been mentioned by ONGC that Tauktae cyclone was a severe cyclone which was unprecedented and wind speeds have not been seen in western coast. In this regard, the Committee wanted to know about the wind speeds and swell experienced in Eastern coast which also faces cyclone, the Ministry in its written reply submitted as under:

“At Eastern Coast, during the South-West Monsoon(June to Sept), conditions are characterized by moderate to fresh south-westerly winds, predominantly between 10 knots to 20 knots, although higher speeds are also occasionally encountered sometimes reaching 35 knots.

In association with these winds there is a persistent long period swell from the south and south-east originating from the northern Indian Ocean. Swell wave heights range between 1 m and 4 m, and periods between 10 and 12 seconds. Extreme swell waves are known to occur sometimes, with wave heights exceeding 6 m and represent the worst operating conditions, other than those during Tropical.

Conditions off the east coast of India are less severe during the North-East Monsoon (October to December), and are dominated by moderate north-easterly winds between 7.2 to 28.8 kmph. Wave conditions are characterized by a low swell from the north and north-east, with wave heights rarely exceeding 3 m.

At Eastern Coast, frequent cyclone of varying severity gets witnessed every year. Devastating cyclone that was witnessed at East Coast in last 25 years as tabulated (at Table 1.9(a)) in IMD “Cyclone Warning in India” March’2021 is reproduced here:

Historical records of most devastating cyclonic storms (in last 25 years), which formed in the Bay of Bengal and made landfall on the East coast of India”:

Date/Year	Category of Cyclone	Land fall and Relevant information
5-6 November, 1996 (JTWC- Cyclone 07B)	Very Severe Cyclonic Storm 11768	Crossed Andhra Pradesh coast near Kakinada at midnight of 6 November Maximum wind: 108 kts (200 kmph) Intensity at the time of landfall: 55 knot (102 kmph) Surge height: 3-4m
25-31 October, 1999 (JTWC- Cyclone 05B)	Super Cyclonic Storm	Crossed Odisha coast near Paradip at noon of 29 October. Maximum wind: 140 kts (260 kmph); Intensity at the time of landfall: 140 knot (260 kmph) Bhubaneshwar : 80 kts (148 kmph) Surge height: 6-7m Intensity: T 7.0

1.50 The Committee sought to know whether the warnings had been received in time about the unprecedented nature of cyclone Tauktae, the representative of MoPNG submitted that:

“...यह जो हादसा हुआ है, वह काफी गंभीर है और मंत्रालय ने भी इसको काफी गंभीरता से लिया है। ह्यूमन लाइव्ज का लॉस तो हुआ ही है, इसके साथ ही भविष्य में ऐसे हादसे न हों, यह भी हमें ध्यान रखना है। इसमें हम यह बिल्कुल भी नहीं मानेंगे कि किसी की गलती नहीं है या सब

कुछ ठीक था। यदि सब कुछ ठीक था, तो फिर यह हादसा होना ही नहीं चाहिए था। हालांकि सिस्टम और जो भी अलग-अलग बॉडीज बनी हैं, कुछ एजेंसीज, कुछ कमेटीज सेफ्टी के लिए अपना-अपना कार्य कर रही थीं, परन्तु फिर भी यह मेजर हादसा हुआ तो कहीं न कहीं कमी तो रही है”।

Elaborating further, it was informed that:

“...वॉर्निंग मेटियोरोलॉजिकल डिपार्टमेंट देता है। जब भी कोई साइक्लॉन आता है, तो काफी एक्युरेट इन्फॉर्मेशन दी जाती है। हमारे देश में इस विभाग के पास काफी अच्छी क्षमता है। मेटियोरोलॉजिकल डिपार्टमेंट ने वॉर्निंग दी थी, लेकिन इसकी वॉर्निंग केवल यह बताती है कि स्टॉर्म कब आ रहा है और उसकी क्षमता क्या होगी। उसके बाद जिनकी भी शिप्स होती हैं, जिन्हें सेफ जगह पर जाना होता है, यह उनकी जिम्मेदारी होती है। यदि कोई हादसा होता है तो नेवी और कोस्टगार्ड मदद करने के लिए आते हैं। यह व्यवस्था अभी है। इस केस में भी वॉर्निंग दी गई थी और प्रेजेंटेशन में यह बताया गया था कि जो कोर्स है, वह चेंज हुआ है। उस पर मैं कुछ कमेंट नहीं करूंगा। इंटेन्सिटी भी ज्यादा थी। अनप्रेसिडेन्टेड तो था, क्योंकि वेस्टर्न साइड पर इतनी इंटेन्सिटी के स्टॉर्म्स कम ही आते हैं। ईस्टर्न साइड पर ज्यादा आते हैं। उस हिसाब से अनप्रेसिडेन्टेड था और यहां पर ओएनजीसी के अनमैन्ड और मैन्ड प्लेटफॉर्म्स काफी हैं और जैसा कि प्रेजेंटेशन में भी दिखाया गया था कि बहुत सारी वेसेल्स हमेशा डिप्लॉयड रहती हैं। वहां 7 हजार से अधिक लोग थे, जब स्टॉर्म आया और मैंने स्वयं भी बाद में उस क्षेत्र का दौरा किया है। जो प्लेटफॉर्म्स हैं, वे स्टॉर्म्स आदि के लिए डिजाइन किए हुए होते हैं और इन पर ही लोग रहते हैं। जो बार्जेस और वेसेल्स मूव करते हैं, उनको एक सेफ जगह पर जाना होता है और उसमें सभी के प्रोटोकॉल्स और सिस्टम्स बने हुए होते हैं। अब ये पॉइंट आया कि क्या जो कैप्टन था, उसी पर यह निर्णय छोड़ देना चाहिए था या ओएनजीसी व अन्य किसी को भी इसका ध्यान रखना चाहिए था”।

1.51 The Committee wanted to know the types of inclement weather at high seas at offshore locations, the Ministry of PNG in its written reply submitted the following information:

“Heavy rain, Thunder showers, high seas, high wind, ocean currents (tidal, thermal and wind generated), cyclones etc. are the various types of inclement weather to which all the fixed platforms and Rigs, different types of vessels and barges are exposed to. The capacities / capabilities are different for different offshore installations. Platforms are designed on 100 years extreme weather condition criteria and Rigs are designed on 50 years extreme weather condition criteria.

All vessels are built in compliance with SOLAS chapter II-1 & II-2- Construction, Structure, subdivision & stability, machinery and electrical installations/fire protection, fire detection, extinction and Construction & Classification of Steel Ships by Class”.

1.52 The Committee wanted to know about the errors involved in the weather forecast to which the representative of the IMD replied during oral evidence:

“यह जो साइक्लोन फोरकास्ट होता है, इसमें एरर निकालते हैं। जैसे हमने बोला कि यह ड्यू के पास क्रॉस करेगा, माने हमने 24 घंटे पहले बताया कि ड्यू के पास साइक्लोन क्रॉस करेगा। मैं पिछले 5 सालों का एरर देखूँ, तो एरर 30 किलोमीटर है, माने ड्यू से 30 किलोमीटर वेस्ट जा सकता है या ईस्ट जा सकता है। यह एरर है। अगर आप इस एरर को कम्पेयर करेंगे, यह एरर पहले 5 साल से, अभी जो अगले 5 साल हैं, लगभग 45 परसेंट डीक्रीज हुआ है। अगर इंटरनेशनल को कम्पेयर करेंगे, यह एरर सभी के एरर से कम है, ज्यादा नहीं है। 30 किलोमीटर एरर है, एक साइक्लोन का जो आई होता है, सेंटर होता है, सेंटर के दायें में 50 किलोमीटर होता है। That is why that 30km error is not an considered an error. You can say that it is almost a correct forecast”.

1.53 Elaborating further about the severity of winds speeds during cyclone tauktae, the representative of IMD made the following submission:

“A detailed report is available with us that we have shared with the Committee. Once the wind speed exceeds 60 kmph, it is unsafe for ships. मैंने प्रजेन्टेशन में डायग्राम दिखाया है, ब्लू कलर में दिखाया गया है, वह 60 किलोमीटर से ज्यादा है। पहले दिन 13 तारीख को हमने इश्यू कर दिया, इससे पहले 11 तारीख को हमने प्रेस रिलीज भी कर दिया। समस्या यह रही कि they were getting the information from some other sources which was not correct. हमारी जो इनफार्मेशन थी, वे डायरेक्टली उसे यूज नहीं कर रहे थे, जो हम लोग वेबसाइट पर लगा रहे थे, वे उसे देख रहे थे। लोकेशन स्पेसिफिक इनफार्मेशन उनके पास नहीं जा रही थी। हम टोटल एरिया के लिए इनफार्मेशन दे रहे थे। हमने जो भी इनफार्मेशन दी, हम हर तीन घंटे में अपडेट कर रहे थे। आप देखेंगे कि 15 तारीख को जो हमने बुलेटिन इश्यू किया, जो उच्चतम विंड आया, उतनी ही विंड का पूर्वानुमान हमने किया था। ... Once it goes beyond 60 kmph, it becomes dangerous. हमने 130 टू 140 दिया था तो एक्शन तो होना ही था”।

1.54 When asked to provide details of frequency of weather alerts issued by the IMD and whether there have been any alerts in the past to evacuate personnel working at offshore platforms, the Ministry in its written reply submitted as under:

"Cyclone related information were obtained from IMD bulletins available to public on their website. IMD, in the past and during cyclone Tauktae, have not issued any alerts to evacuate personnel working at offshore platforms".

1.56 On being enquired by the Committee about the agencies involved to act on the advance weather warnings issued by weather forecasting agencies and the mandate of the offshore safety agencies, the Ministry in its written reply submitted as under:

"ONGC is having well laid down policies and procedures to ensure safety of rigs, vessels and platforms including its crew. OIM (Offshore Installation Manager) at Platforms and Rigs and Master/Captain of Vessels/Barges are responsible for ensuring all the safety measures, protocols and SOPs.

Offshore Installation Manager (OIM) is the first responsible person to act upon any advisories issued and to ensure compliance of SOPs for emergencies as per Installation specific Emergency Response Plan (ERP). OIM handles the emergency through available resources at his command.

Any emergency is also immediately communicated to Vasudhara Control Room/Drilling Radio Room, Mumbai. Both these control rooms operate round the clock throughout the year.

In case the emergency requires support from external agencies and cannot be handled by in house resources, then Regional Contingency Plan is activated. Regional contingency committee is headed by Chief of Western Naval Command.

Further based on the magnitude of emergency, Corporate Disaster Management Plan can also be activated to help particular asset to cope up with the emergency".

1.57 The Committee noted that till 2010, IMD was providing weather forecasting services to ONGC. When asked why IMD is not supplying weather services to ONGC after 2010, the representative of IMD during oral evidence informed that:

"IMD was providing warning to ONGC directly earlier. We were asked, and there was an understanding as we had one office in Mumbai, ONGC Cell and we were providing all forecast and warning to them. It was continuing till 2010 and everyday three bulletins were being issued, and during cyclone period more frequent bulletins were issued. There was a direct contact. We put one senior officer and six people were working over there. But after 2010, it got discontinued because they wanted to have some kind of tendering process and IMD, being a government agency, could not participate in the tendering process and it was given to private parties. Therefore, that systematic interaction was disrupted from that time. If you look towards the end, every three-hourly bulletins were being issued at that time, but in the meeting that was conducted after this incident -- where I participated as DG and Dr. Srinivasa also participated in his capacity as Director, INCOIS - finally it was decided and we said that we have to avail the facility from national agencies. So, during the last cyclone, we sent all the bulletins and they acknowledged it also that they wanted it. Now, they have

come forward to again establish the relationship. We will be establishing the Centre and providing the forecast for this purpose”.

1.58 Elaborating about the forecast accuracy of IMD during oral evidence, the representative of IMD submitted that:

“As regards forecast accuracy, this is one example of super cyclone that crossed West Bengal. In the recent years, India is second to none as compared to the other leading cyclone-warning agencies. We have come a long way with investment in areas like modernisation of the IMD, etc. in the recent years. There has been about 25-50 per cent improvement in forecast accuracy of cyclone, etc. The diagram on the left shows how the errors are coming down, and in the middle one you can see how the skill is improving. So, everywhere there has been significant improvement. The pinpointed accuracy of the cyclone has been highlighted by the UN and the World Meteorological Organization”.

Supplementing further:

“As regards impact modelling, if we want impact-based forecast for each and every point in ONGC or any other offshore installation, then whatever damage has been done in the past; the past data on damage caused; and past data on weather that has been collected by them should be shared with us, so that we can utilize it to develop the impact model as also for risk analysis just like we are doing for land surface”.

Data exchange between offshore industries and forecasting agencies

1.59 The monitoring instruments such as weather stations, Radar etc are installed in offshore installations and platforms to monitor the marine met parameters. These instruments need to integrate with the real-time transmission facilities such that these data flows to IMD and INCOIS and can be utilised to improve the accuracy of predictions. In addition, the historical data such as wind, wave and currents along with the damage reported in these area also should be shared with IMD and INCOIS. It can be used for long term validation of their predictive models and also for the risk analysis. The high-resolution bathymetry data collected by offshore industries when used in numerical models can improve the predictive capability.

Impact based forecasting for onshore/offshore operations of Oil and other sectors

1.60 A well-designed multi-model setup with probabilistic forecasting approach is a prerequisite for an impact-based forecast, i.e. what the expected weather and Ocean state might do to various kinds of ocean structures or ships/boats/tugs/barges etc. based upon their design thresholds capacity to cumulative forces of wind, wave and current. The impact based

forecasts for offshore structures/floating need to be developed by representing risk matrix based on likelihood of extreme events in conjunction with its cumulative impact.

Decision Support System (DSS)

1.61 There is a need for a dedicated Decision Support System to provide actionable disaster managements instructions for the Indian offshore industry integrating customized and impact based early warnings from the IMD and INCOIS for safe and secure operations in the oil/offshore installations (mobile and stationary) that cannot be moved away to safer locations immediately during such contingencies. Development/improvement of Decision Support System (DSS) by IMD and INCOIS is essential for monitoring, generating impact based forecasting and early warning to all marine users. Development of DSS by all marine user agencies is also required to utilize the impact based forecast and warning by IMD/INCOIS and hence to assess risk to specific establishment and marine infrastructure and initiate response actions accordingly.

Role of Ministry of Shipping in enforcing Safety Standards for Maritime Vessels

1.62 The Committee were informed that some of the equipments used like multi support vessels, MSVs/OSVs and Barges in offshore operation in the country are governed by regulations and guidelines issued by Director General of Shipping. The registration, certification and inspections of such vessels are governed by International Conventions.

1.63 Shipping is an international industry and one of the most diverse industries of the world. As trade is international, regulations needs to be consistent across all jurisdiction for seamless movement of trade with the shipping industry being responsible for the carriage and transportation of most of the world trade.

The International Maritime Organization (IMO) - is the United Nations specialized agency with responsibility for the safety and security of shipping and the prevention of marine and atmospheric pollution by ships. Under the auspices of the IMO, International Conventions have been agreed which set out uniform requirements in order to facilitate the acceptance of a ship registered in one country in the waters and ports of another and in the general furtherance of safety at sea and the protection of the environment. These requirements are commonly referred to as 'statutory' requirements. Broadly, they cover four distinct areas:

- Aspects of the ship's design and its structural integrity – load line and stability in the intact and damaged condition, essential propulsion, steering equipment, etc.;
- Pollution control with regard to normal ship operation;
- Accident prevention, including navigational aids and pollution and fire prevention;
- The situation after an accident (fire, flooding) including containment and escape.

Oil companies use port land and facilities to:

- i. transfer crude and products from/ to ships,
- ii. store crude and product in port land in 'Tank Farms'
- iii. transfer the petroleum crude or products through pipelines between oil terminal and Tank Farms.

To facilitate transfer of crude oil brought by Very Large Crude Carriers (VLCC) and Ultra Large Crude Carriers (ULCC) to oil refineries ports provide space for installation of 'Single Buoy Mooring' (SBM). The transfer of crude and refined products are also undertaken through fixed terminals consisting of RCC berths equipped with loading and unloading arms, transfer systems, electronic and electrical controls etc.

Operational control of all these facilities lies with the concerned oil company, except for controlling movement, berthing and de-berthing operations of petroleum tankers/ vessels. These terminals are operated as per standards specified by Oil Industry Safety Directorate (OISD), Ministry of Petroleum and Natural Gas (MoPNG) and after statutory permission accorded by Petroleum and Explosives Safety Organization (PESO).

Petroleum Terminals and SBMs are designed, installed and operated taking utmost safety precautions. Different risk assessment tools such as HAZard and OPerability (HAZOP), Fault Tree Analysis, Failure Mode Effect Analysis (FMEA) of loading and unloading systems for oil tankers etc. are used to keep the risk level low and increase safety standard. Safety Management Systems (SMSs), including complementary tools and processes such as permits to work, risk assessment, Lock-out/Tag-out (LO/TO), Stop Work Authority (SWA) and their linkage to the underlying principles of the International Safety Management (ISM) Code are followed.

Regular safety audits of the petroleum handling terminals are conducted by OISD and Directorate General of Factory Advice Service and Labour Institute (DGFASLI), accordingly the system is updated based on recommendation of OISD and DGFASLI. The PESO officials

also inspect oil handling, transfer and storage facilities and accordingly the safety standards are maintained by Ports and Concerned Oil Handling Company.

Each Terminal is well equipped with fire-fighting system meeting standards specified by OISD. Similarly, safety of storage tanks and pipelines are maintained by concerned Oil Companies. Restricted entry into oil terminals, no entry of flammable and ignitable substances, dedicated use of facility for petroleum substances, round the clock availability of fire-fighting team etc are ensured.

All major ports are certified for following International Ship and Port Facility Security (ISPS) Code specified by International Maritime Organisation (IMO) and a trained officer is designated as Port Facility Security Officer (PFSO) to manage security related aspects with the help of Central Industrial Security Force (CISF). At SBMs primary level of security is provided by oil companies by keeping trained manpower, whereas CISF provides 2nd tier of security through regular patrols etc.

1. Some of the instruments to deal with the safety matters adopted at IMO are as follows:
 - International Convention for the Safety of Life at Sea (SOLAS).
 - Convention on the International Regulations for Preventing Collisions at Sea (COLREG), 1972.
 - The international Convention for the standards of training, certification and watch keeping for seafarers. (STCW)
 - International Convention on Load Lines (LL), 1966.
 - International Convention on Maritime Search and Rescue (SAR), 1979.
 - Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation (SUA), 1988.

Certification of Vessels:

1.64 All vessels, including the ones operating on the Coast of India or Indian Oil Fields are to have valid applicable certificates to ensure compliance with the respective Convention requirements. Flag State of the vessel or its Recognized Organization (R.O), issues Certificate(s) once compliance with the applicable Convention requirements are verified. Thereafter, it is the responsibility of the Owner, Master and Crew to ensure that conditions in which certificate(s) are not changes and that the vessel remains in seaworthiness condition.

In case of non-propelled vessels (example Barges), they are registered under a very old legislation, enacted during the British-era i.e, Coasting Vessels Act, 1838. It may be noted that, this act contains provision for registration only and does not empower the Maritime Administration to provide rules and regulations for the safety, security and pollution prevention aspects therein.

Trading License Requirements:

1.65 In addition, all Indian Flag vessels and Foreign Flag vessels operating on Indian coast (including Indian Oil Fields) are required to have a Licence. This license is a trade document to protect Indian trade, and does not have bearing upon safety of the vessel. The License to foreign flag vessel is issued only after ensuring that no such Indian Flag vessel is available for that particular voyage/specific operation.

The license issued to foreign flag vessel by DG Shipping under Merchant Shipping Act, 1958 is subject to the conditions, inter-alia that all the relevant statutory certificates are to be valid during the license period. Further, responsibility of the owner, master or seaman or agent of such vessel is to keep the ship sea worthy. Any change in the submissions provided while obtaining the DGS License, renders the License invalid. Further, the license cease to be valid where there are material alterations or if fittings, appliances and deck and loadlines are not effectively maintained or structural strength has been lowered rendering the ship unsafe.

In case of non-propelled vessels, (example Barges), since M.S Act 1958, requirements are not applicable to non-propelled vessels, foreign ships are mandated to have license through executive order issued by the DG Shipping.

1.66 The Committee wanted to have a brief overview of the legislations governing onshore and offshore vessels to which, the Ministry of Shipping during oral evidence submitted as under:

“Maritime की सेफ्टी और सिक्योरिटी को लेकर जो व्यवस्था है, उसके बारेमें मैं बताना चाहूंगा कि चूंकि शिपिंग एक इंटरनेशनल इंडस्ट्री है, इसलिए सेफ्टी और सिक्योरिटी को लेकर जो व्यवस्था बनी है, वह International Maritime organization है। यह यूएन की एक संस्था है। समय-समय पर सेफ्टी, सिक्योरिटी और अन्य चीजों जैसे कि Maritime और

पर्यावरणीय प्रदूषण को लेकर कन्वेन्शन्स बने हैं। Maritime Vessels की सेफ्टी और सिक्योरिटी बहुत महत्वपूर्ण है। हमारी तरफ से कुछ एक्ट्स बने हुए हैं, उनमें मुख्य एक्ट Merchant Shipping Act है। इसके द्वारा इन कन्वेन्शन की जो व्यवस्था है, उसको अच्छी तरह से भारत में लागू किया जाए तथा हमारे वेसेल्स जो हमारे एरिया में ऑपरेट करते हैं, उन पर लागू किया जाए, इसके लिए इसमें प्रावधान किया गया है। जितने भी इंटरनेशनल प्रॉस्पेक्ट्स ऑफ कन्वेन्शन हैं, उसमें यह कोशिश होती है कि हमारे वेसेल्स हमारे एरिया में ऑपरेट करें और वे उसको कम्प्लाय करें, जिससे कि हमारे लोग जो इन वेसेल्स पर काम करते हैं, उनकी सेफ्टी और सिक्योरिटी हम हर समय इन्श्योर कर पाएं।

Elaborating further on the global nature of the shipping, the Ministry of Shipping during oral evidence submitted as under:

“दूसरी स्लाइड में जैसा कि सचिव महोदय ने बताया है कि इंटरनेशनल शिपिंग एक इंटरनेशनल बिजनेस है, जिसमें जहाज एक कंट्री का होता है, उसे किसी दूसरी कंट्री का सिटिजन चार्टर करता है, किसी तीसरी कंट्री का सिटिजन उसे मैनेज करता है और जो कू उसको मैनेज कर रहा होता है, वह चौथी कंट्री का होता है या फिर बहुत सारी कंट्रीज को मिलाकर शिप का कू बनता है। यह शिप अलग-अलग देशों के बंदरगाहों पर जाते हैं। अतः बहुत जरूरी है कि शिप के लिए जो नियम बना हो, वह सारी कंट्रीज को मान्य हो। इसी वजह से जैसा कि सचिव साहब ने बताया कि शिप के जितने रेग्युलेशन्स बनते हैं, वे इंटरनेशनल मैरिटाइम ऑर्गेनाइजेशन, जोकि यू.एन. की एक स्पेशलाइज्ड बॉडी है, उसके द्वारा बनाए जाते हैं और अलग-अलग कंट्रीज उनके कन्वेन्शन्स को एक्सेप्ट करते हैं।”

1.67 The Committee wanted to know under which Act/legislation are the non-propelled vessels like accommodation Barges are regulated and inspected/certified for offshore operations, the Ministry of Shipping in its written reply submitted as under:

“The Registration of non-propelled barges at present are under Indian Coasting Vessel Act 1838. Non-propelled barges are regulated as per DG Shipping Development Circular No. 2 of 2006 and 1 of 2007 as amended for offshore operations”.

1.68 When asked about the number of such accommodation Barges providing services to work connected with ONGC during the last one year and what is the period of such services provided to them, the Ministry in its written reply submitted the following information:

"During the construction season 2020-21, 15 accommodation barges were deployed in ONGC's Western Offshore. Construction season falls between 16th October of one year and 15th May of next year. However, if weather permits (fair weather), work continues beyond 15th May".

1.69 On being enquired about the country and which year the ill-fated Barge P-305 was registered, the Ministry in its written reply submitted as under:

"Barge P-305 was registered in ST KITTIS & NEVIS in 2018".

1.70 The Committee sought to know whether Barge P-305 had obtained the statutory trading license/executive order from Director General, Shipping for its platform supporting operation at offshore locations, the Ministry in its written reply submitted as under:

"Yes, Charter permission – cum license for Papaa 305 was issued by DG Shipping for offshore operations".

1.71 The Committee wanted to know whether Barge P-305 had been certified for its sea worthiness and if so, which are the agencies/companies that have provided certification for the same, the Ministry in its written reply submitted as under:

"Yes, the Barge P-305 had been certified for its sea worthiness. Class Certificate & Mobile Offshore Drilling Unit (MODU) Certificate was issued by M/s RINA Services S.p.A".

1.72 On being enquired about the last time the anchors of Barge Papaa-305 were inspected/certified for offshore operations, the Ministry in its written reply submitted as under:

"Anchors are inspected and certified by member agency of International association of classification societies (IACS) during dry-docks of vessels by classification society. Last dry-dock of vessel was carried out in Dubai in July 2019. Dry dock intervals as per Class requirements is not more than 5 years".

1.73 During the oral evidence, the Committee sought to know to whom the final responsibilities lies in evacuating the vessels during cyclones, the representative of the ONGC informed that:

"जो इंटरनेशनल कन्वेंशन्स हैं, उसमें यह साफ-साफ लिखा हुआ है। हालांकि, हम भी इसको देखेंगे। हमने अपनी इंटर रूल को फर्दर एग्जामीन करने के लिए कहा है कि बर्ज मास्टर को किसी

तरह से इन्फ्लुएंस किया जा सकता है या नहीं? अभी जो इंटरनेशनल वाटर लॉ है, उसके हिसाब से बर्ज मास्टर की फाइनल अथॉरिटी है और जो गिवेन इमरेजेन्सी है, उसमें कोई दूसरा उसको इन्फ्लुएंस या डायरेक्ट नहीं कर सकता है। उसमें इसी तरह का प्रोविजन है। उसकी एक स्पेसिफिक क्लॉज भी है। उसको हमने देखने का प्रयास किया है कि उसमें कहीं कोई कमी या त्रुटि तो नहीं है, जिसके चलते हम इसको कर दें। लेकिन, इसके बावजूद कमेटी की जो भी रेकमेंडेशन होंगी और यदि डोमेस्टिक लॉ में कोई भी चेंज आता है, जिसमें रेस्पॉसिबिलिटी अतिरिक्त रूप से ओएनजीसी को भी दी जाती है, तो उसको जिस हिसाब से क्रियान्वयन करना होगा, वह हम करेंगे। हम यह एश्योर करते हैं कि जो भी लीगल फ्रेमवर्क होगा, उसको पूरी तरह से फॉलो किया जाएगा”।

1.74 The Committee sought to know as to whether the Ministry/ONGC are aware that the non-propelled barges are not covered under any regulations for inspection and certification and only registration under Coasting Vessels Act, 1838 and whether the Ministry had taken up the issue with the Ministry of Shipping for incorporation of suitable regulations, the Ministry in its written reply submitted as under:

“Registration of non-propelled barges at present are under Coasting Vessels Act, 1838. Non-propelled barges are regulated as per DG Shipping - Shipping Development Circular No. 2 of 2006 and 1 of 2007 as amended for offshore operations. Therefore, MoPNG has not taken up with Ministry of shipping”.

1.75 The Committee sought to know to the various legislation that require urgent attention in the aftermath of the Tauktae incident, the representative of the MoS informed that:

“यह सच है कि जो कोस्टिंग वेसल्स एक्ट है, वह 1838 का एक्ट है और उसमें सिर्फ रजिस्ट्रेशन का प्रावधान है। इंस्पेक्शन, सर्वे, सर्टिफिकेशन इन सबका मर्चेन्ट शिपिंग एक्ट में जिस तरह का रिजीम है, उस तरह का रिजीम कोस्टिंग वेसल्स एक्ट के लिए नहीं है। जब कोस्टिंग वेसल्स एक्ट बना था, उस समय डम्ब बार्जेज जिसको कहते हैं, उसका सिर्फ ट्रेलर की तरह इस्तेमाल किया जाता है। वह सिर्फ संख्या गिनने के लिए होता था कि कितने ट्रेलर्स हैं। इस तरह से इसका इस्तेमाल होता रहा था। ऑफशोर की रिक्वायरमेंट पूरे विश्व में नई आई है। उस समय तक आईएमओ ने भी इस तरह का कन्वेंशन नहीं बनाया था, जो ऑफशोर के रिक्वायरमेंट को डील कर सके। ऑफशोर का रिक्वायरमेंट 1979, फिर 1993 और 2009 में बना। यह नया रिक्वायरमेंट है। जैसे-जैसे इसके कन्वेंशंस बन रहे हैं, वैसे-वैसे उसके रूल्स भी डेवलप हो रहे हैं। यद्यपि डीजी, शिपिंग को कोस्टिंग वेसल्स एक्ट में एक्ट करने की कोई पावर नहीं है, चूंकि यह गैप दिख रहा था कि इस तरह का यह गैप है तो हम लोगों ने सन् 1992 में एक एग्जिक्यूटिव

ऑर्डर इश्यू किया था। उस एग्जिक्यूटिव ऑर्डर के तहत हम लोगों ने कहा था कि जो नया आईएमओ कन्वेंशन आया था, जिसे मोडूकोड कहते हैं तो जो भी जहाज इण्डिया में काम कर रहे हैं, उनके लिए मोडूकोड या एसपीएस-कोड का पालन होना चाहिए। उस मोडूकोड और एसपीएस-कोड का पालन एग्जिक्यूटिव ऑर्डर के द्वारा हो रहा है, लेकिन जो पेनल्टी प्रोविज़न होना चाहिए या डायरेक्शन देने का प्रोविजन होना चाहिए, वे प्रोविजंस अभी नहीं हैं। इनके लिए एडिशनल सेक्रेटरी साहब ने कहा है कि अब प्रावधान लाने की कोशिश की जा रही है, ताकि सेंट्रल गवर्नमेंट या डीजी शिपिंग के सारे पावर्स इस तरह के वेसल्स पर भी आ सकें। हम लोग कन्वेंशंस का रिक्वायरमेंट अभी भी फुलफिल कर रहे हैं।

सर, सर्टिफिकेशन का रिक्वायरमेंट, आपने जैसे पापा-305 के बारे में कहा कि एक्ट नहीं है, लेकिन फिर भी एग्जिक्यूटिव ऑर्डर के द्वारा उसको इम्प्लीमेंट करने की कोशिश की जा रही है। यहां बहुत से सवाल हाई लेवल कमेटी के ऊपर भी आए। चूंकि रिपोर्ट अभी पूरी तरह से तैयार नहीं है तो मैं सिर्फ यह आश्वासन दे सकता हूं कि जो भी सही तथ्य हमारे सामने आएंगे, उनको हम लोग उस रिपोर्ट में लाएंगे। अब मल्टीडिपार्टमेंट कमेटी बन गई है, उसमें हम लोगों ने आईएमडी को लिया है और इन कॉइस को भी लिया है।

Elaborating further with specific reference to Barge P-305, the representative of the MoS informed that:

“पापा-305 के इंस्पेक्शन की बात थी तो मैं दो-तीन चीजें बताना चाहूंगा। इंस्पेक्शन रिजीम में जो वेसल, जिस फ्लैग में रजिस्टर्ड होता है और वह जिस कंट्री का जहाज है, उसकी रेस्पोंसिबिलिटी अपने जहाज के इंस्पेक्शन रिजीम को इम्प्लीमेंट करने की होती है। पापा-305 सेंटकिट्स में रजिस्टर्ड जहाज है। उसका इंस्पेक्शन रिजीम सेंटकिट्स को फॉलो करना था। सेंटकिट्स ने जिस एजेंसी से कराया था, वह रीना है। सर, जो नौ रिकग्नाइज्ड ऑर्गेनाइजेशंस हैं, जिन्हें आईएमओ के एसोसिएट मैम्बर कहते हैं, वे कंट्री नहीं हैं, लेकिन कुछ इस तरह के टेक्निकल ऑर्गेनाइजेशंस को आईएमओ अपना एसोसिएट मैम्बर बनाता है। ये एसोसिएट मैम्बर के ऑर्गेनाइजेशन के पार्ट हैं। इनके सर्टिफिकेट को विश्व में हर जगह माना जाता है। जब जहाज का इंस्पेक्शन हो रहा होता है तो यह जरूरी नहीं है कि वह जहाज आपकी कंट्री में हो। इण्डिया का कोई जहाज अमेरिका में है तो हम लोग उसको इण्डिया वापस आने के लिए नहीं कहते हैं। चूंकि ये ऑर्गेनाइजेशंस हर जगह हैं तो वहां अमेरिका का सर्वेयर है, वह सर्वे करके सर्टिफिकेट देता है। सर्टिफिकेशन और इंस्पेक्शन की जो वस्तु स्थिति थी, वह जरूर कमेटी की रिपोर्ट में

आएगी कि क्या सर्टिफिकेट था, वह वैलिड था या नहीं था और किसने वह सर्टिफिकेट इश्यू किया था।

मैं दूसरी जरनल चीज बताना चाह रहा था कि जहाज, स्टैण्डर्ड जहाज नहीं बनता है, स्टैण्डर्ड रूल्स होता है। जब जहाज बनता है तो किसी पार्टिकुलर परपज के लिए बनता है और वह कस्टमाइज्ड होता है। हर जहाज की कुछ लिमिटेशंस होती हैं। जब ये सर्टिफिकेट्स दिए जाते हैं तो उस जहाज की क्या लिमिटेशन है, यह भी बताया जाता है। उस जहाज की एक स्टेबिलिटी बुकलेट होती है, जो बताती है कि इसको किस लिमिट में काम करना चाहिए। जाहिर है कि अगर वह जहाज उस लिमिट के बाहर काम कर रहा है तो ये सारे सर्टिफिकेट्स बेईमानी के हो जाते हैं, क्योंकि वह जहाज उस परपज के लिए नहीं बना था। हमारी कमेटी भी यह चीज़ एग्जामिन कर रही है कि ये जो सब जहाज थे, वे इस तरह की वेदर कण्डीशंस को झेलने के लिए बने थे या नहीं बने थे। यह उसके मालिक को भी मालूम है कि ये जहाज उस वेदर कण्डीशन के लिए हैं या नहीं हैं और उसके मास्टर को भी मालूम है, क्योंकि स्टेबिलिटी बुकलेट उस जहाज के ऊपर रहती है। जो चार्टर कर रहा है, उसको भी मालूम है कि यह जहाज किस परपज के लिए चार्टर किया गया और यह उस परपज के लिए यूज किया जा रहा है या नहीं किया जा रहा है। अगर मैं बहुत ही क्रूड लैंग्वेज में बोलूँ कि अगर आप मारुति कार को लेकर उसमें ट्रैक्टर का ट्रेलर लगा दीजिए और कहें कि अब यह गाड़ी नहीं चल रही है तो यह मारुति के मैनुफैक्चरर्स के लिए ज्यादाती होगी, क्योंकि यह गाड़ी उस परपज के लिए नहीं बनाई गई है। यह भी देखना बहुत जरूरी है कि जिस वेदर कण्डीशन में इस जहाज को रखा गया, वह जानकारी टीवी द्वारा, न्यूज द्वारा, ई-मेल द्वारा सभी को लगातार दी जा रही थी। यह भी नहीं है कि एक बार वार्निंग दी गई, इसके लिए शायद 32 वार्निंग आईएमडी ने इश्यू की थीं, 10-12 सिट्रैप्सडिजी कॉम सेंटर द्वारा दी गई थीं और कॉस्टगार्ड ने उतने ही नम्बर्स की वार्निंग दी थी। उनके पास अपना सिस्टम था, जिसमें उनको हर मिनट पर वेदर की वार्निंग आ रही थी। मुझे नहीं लगता है कि किसी ने यह कहा होगा कि उनके पास वार्निंग नहीं गई।

क्योंकि वार्निंग देश के एक-एक आदमी के पास पहुंची हुई थी कि इस तरह का वेदर सिचुएशन होने वाला है”।

1.76 The Committee asked to provide details of labour laws applicable w.r.t. the deployment of personnel on offshore activities of ONGC. In this regard, the Committee wanted to know whether personnel deployed at offshore platforms are insured, the Ministry in its written reply submitted as under:

"Indian Laws are applicable upto 12 Nautical Miles in the territorial water of India. As regards insurance, the respective employer is required, as per contract, to take out and keep in force, adequate insurance to cover all risks".

Proposed Reforms to Enhance Safety by Ministry of Shipping

1.77 Proposed measures under Merchant Shipping Bill, for enhancing the Safety of life and Ships:

- All seagoing vessels irrespective of their tonnage or means of propulsion or area of operation to be registered under the Merchant Shipping Act, so as to ensure safety, security and pollution prevention aspects
- Registration of vessels to be valid for a given time period, and same may be re-validated in accordance with the procedures, upon payment of prescribed fees.
- Powers to deal with marine incidents by ships
- Powers to deal with abandoned vessels, insurance and financial security,
- Control measures for vessels, dealing with defaulting ship-owners, detention of un-seaworthy vessels,
- Safety and security management for vessels and port facilities
- Search and rescue
- Power to deal with flag less vessels

Reforms proposed in Coastal Shipping Bill:

- Registration, safety, security and marine pollution issues relating to non-self propelled vessels to be brought under MS Act.
- Coasting Vessels Act, 1838 to be repealed.
- Enhancement in safety standards of the non - propelled vessels.
- Provisions for initiating action against non-compliant non-propelled vessels.
- Prohibition to ensure security by prohibiting stay of Foreign Flag vessels after expiry of License.

Control over foreign flag Vessels for coastal and EXIM operation:

- All foreign flag vessels chartered by Indian entities for coastal operation/trade to be required to have license from Director General of Shipping, Gol. (proposed in Coastal Shipping Bill)
- All foreign flag vessels chartered by Indian entities for Exim trade or operation outside India to have license from the Director General of Shipping, Gol.
- All foreign flag vessels directly intending to engage in coastal operation/trade in India (i.e without being chartered by Indian entities), to have license from the Director General of Shipping, Gol.

Proposed Reforms to Enhance Safety especially in Indian Offshore Area

Location specific weather forecast for the offshore platforms

1.78 During recent Cyclonic storm it was noted that, availability of location specific weather forecast for the offshore platforms, upon specific weather parameters would aid in better understanding, which would further enable the decision making required for safety of personnel and assets.

Further, upon receipt of weather warnings, better communication and understanding on the required decision making amongst Operator and Contractor(s) needs to be brought in place. This may be aid by a structural approach using risk-assessment tools, to ensure that risk is identified, quantified, and appropriate control measures put in place to reduce the risk to acceptable levels.

IMD may enhance its capability to further improve the weather forecasts, by installing various weather sensory equipment on the fixed platforms as a feedback data to enhance weather modelling parameters.

Appropriate Emergency Response

1.79 Most important aspect in handling natural emergencies, which can be forecasted, is to take adequate precautions and ensure pre-emptive actions are taken well in advance. However, it is noted that many Emergency Response Plan (ERP) do not address these aspects. Hence, it is required that the ERP of contractors should include detailed actions required to be taken upon receipt of initial weather warning. The primary response may be of the Operator and the secondary response may be that of the Contractor / Ships Master as the case may be. Indian Coast Guard which is the nodal agency for SAR operations and have a wide range of infrastructure to deal with such situations, should also be empowered to deal with actions required for ensuring that adequate pre-emptive actions are taken for emergent situations such as Cyclones and Tsunamis. This should include powers to enforce the required pre-emptive measures for such situations.

The ERP should be detailed and should cover various all known emergency situations. The ERP of Contractors should be merged with ERP of the Operator and necessary bridging document should be put in place where required. Operator of the oil field should identify and

have suitable AHTs available as Emergency Towing Vessel (ETV) for response in case of an emergency situations. In addition, these vessels AHT/ETV should have RO approved towing plan for rough weather conditions.

Facility for tracking response of vessels in case of Cyclones or Tsunamis

1.80 Enhancing capability for continuous monitoring vessels on the coast of India and at the Indian Offshore Oil Fields. Thereafter, establishing a control centre wherein all the vessel movement data is available to be able to track the action taken by the various vessels / barges in event of a Cyclone.

Procedures and Contracts

1.81 Contracts are to be reviewed to ensure the liability is well spread between the Operator and the Contractor(s). The operator should remain liable for all personnel working at the Oil Field irrespective of whom they are employed by or if the vessel/barge has moved at a safe distance from the fixed platforms.

Applicability of terms and conditions for hiring marine spread should remain the same irrespective weather hired by the Operator directly or through the Contractor.

Mooring Analysis of Moored Vessels

1.82 Mooring analysis of the vessel moored at the Oil Field should clearly identify the limiting weather conditions based upon wind, waves, currents. It should clearly establish weather parameters when the unit need to stop operations and weather parameters when it should be demobilized from the area.

Lifesaving Appliances

1.83 Operator should follow the regulators guidelines regarding useful life of lifesaving appliances. Age of life-rafts may be limited to 10 years.

All accommodation barges deployed in Indian EEZ need to have lifeboat(s) and life-rafts complying with applicable SPS Code or MODU Code. No dispensations to be allowed in

this regard. Further, they also need to have immersion suits as per applicable SPS or MODU Code.

Training of Personnel

1.84 Operator needs to identify various professional and survival training required by personnel working at different levels. Operator and Contractor(s) need to verify and ensure the training of personnel is done from approved institute. Further, mechanism needs to be established wherein the training certificates issued could be verified for authenticity.

Enquiry / Investigation of the Incident

Post Disaster Review by ONGC

1.85 The Committee sought to know as to whether the internal Enquiry Committee constituted by ONGC which enquired into the cyclone Tauktae has submitted their report, the Ministry in its written reply submitted as under:

“The Enquiry Committee constituted by ONGC has submitted its report and follow-up actions are underway”.

1.86 The major findings of the internal committee constituted by ONGC about the Barge P-305 disaster are as under:

“Weather Forecast

Findings

There is a robust and established system of weather forecasting and dissemination and as such there are no perceivable gaps.

Recommendations

Committee recommended that weather forecast received from Skymet and IMD may be analyzed at base during such unprecedented Cyclonic conditions and accordingly information can be forwarded to installations/Rigs/Vessels/Barges for necessary action by all concerned. Further, possibility of incorporating contractual provisions to ensure that such forecast is acted upon by vessels in the field needs to be looked into. Committee opined that this action may be carried out centrally by Head Offshore Safety and Marine Safety cell.

Barges

Findings

- I. The Barge Papaa-305 did not handle the anchors despite taking the Permit to Work (PTW) for the same. Instead she just adjusted the wires of different anchors to move 175m away from the wellhead platform HT. with the aim to complete the balance work without assessing the risk to the Person On Board (POB).
- II. Risk assessment by the Barge Master was not carried out for the expected wind and currents during the cyclone Tauktae and its impact on the anchors keeping the mooring analysis of the barge P-305 into consideration.
- III. In spite of confirmation from LSTK Contractor that P-305 is being moved to sheltered water, barge remained in field at anchor.
- IV. Though, barge Gal Constructor was towed by Anchor Handling Tug (AHT) Varaprada to sheltered water, these vessels were left at outer anchorage which resulted in both vessels trapped in cyclone.
- V. Barge SS-03 could not reach sheltered water due to delayed action on part of LSTK Contractor.
- VI. The hiring of barges is based on pre-approved list provided in the tender. In case offered barge is not in the approved list, the Past Track Record is considered for approval. This process is followed in general in Upstream E&P Sector. This can be further improved by including in the tender the detailed technical specifications and vintage etc. of the barges.
- VII. Experience criteria for senior marine crew: Barges and AHTs are chartered by LSTK contractor. The specifications can further define the experience criteria and manning norms.
- VIII. The Inspections process of the barges before deployment is exhaustive. The same can further be improved and can be made more stringent by including OES representative/ representative from ONGC's marine cell in the inspection team.

Recommendations

- I. During such Cyclonic weather barges should not stay anchored within ONGC's field. It is required for such barges to move to sheltered waters. Time required for picking up anchors and arriving at sheltered water needs to be calculated. Action to be initiated keeping such calculated time in mind. Accordingly, the same needs to be addressed while reviewing of Marine Operations Manual.
- II. Additional risk assessment pre and post incidents should invariably be carried out to tackle such unprecedented severe cyclonic conditions. The same may be suitably addressed while carrying out review of RCP/DMP/MOM.
- III. All barges, vessels including all support vessels should be fitted with Automatic Identification System (AIS) and Long-Range Identification and Tracking (LRIT) for position monitoring and movement in operational area.
- IV. The methodology for hiring or approving the barges and associated vessels may be reviewed. The detailed technical specifications, vintage including manning norms may be considered. A MDT may be constituted for reviewing the above in respect of marine spread of OES.
- V. The Marine Operations Manual, RCP and Bridging documents may be reviewed to include such extra ordinary emergency scenarios.

Pre-mobilization Inspection of all barges is exhaustive and being carried out by ONGC appointed TPI. The same can be considered before deployment of support vessels also. Accordingly, check list may therefore be reviewed. Further the Inspection may be witnessed by OES representative/ representative from ONGC's marine cell".

1.87 On being enquired about the process of documenting major and minor incidents, the Ministry in its written reply submitted the following information:

"All major and minor incidents are reported in incident/ accident management system. ONGC has a well laid down procedure for reporting of accidents and subsequent investigation of accidents. All such incidents are thoroughly investigated by domain experts to find out the root cause and issues advisories and directives to all concerned to prevent reoccurrence of such incidents.

Based on the report, Safety Alerts are issued and circulated among all employees. Online workshops are held to enhance the awareness. The relevant safety alerts are also discussed in tool box talks before start of every shifts. These are also displayed on notice boards for wider publicity".

1.88 On being enquired about the reasons for so many vacancies at senior levels of ONGC and the steps being taken to fill up the posts that are lying vacant also why the selection process is not completed before the superannuation of the incumbent, the Ministry in its written reply submitted the following information:

"Board level posts of Chairman and Managing Director (CMD) fell vacant with effect from 01.04.2021 and Director (offshore) with effect from 01.05.2021. Public Enterprises Selection Board (PESB) conducted selection meeting for the post of CMD, ONGC on 04.06.2021 and did not recommended any candidate keeping in view strategic importance and vision for the company and its future. For the post of Director (offshore), the incumbent has been recommended by PESB and appointment will be made after approval of Appointments Committee of the Cabinet (ACC).

For Below Board level positions: The sanctioned strength of senior level executives i.e. Executive Director (E9 Level) and Group General Manager (E8 Level) is 69 and 118 respectively. There are no vacant posts at senior levels (E9 and E8 level) within ONGC".

1.89 Explaining about the vacancy position in ONGC, the representative of the Ministry during oral evidence stated as under:

"डायरेक्टर ऑफशोर के लिए इंटरव्यू होकर सिफारिश हो गई है कि क्योंकि इसका चयन पीएसबी करता है।

जब कोई पोस्ट खाली होने लगती है तो उससे काफी पहले ही प्रक्रिया प्रारंभ कर देते हैं, लेकिन पीएसबी ही इसे आगे लेकर जाता है। इसके लिए सिफारिश हो गई है और अब उसकी विजलेंस क्लियरेंस आदि होकर नियुक्ति हो जाएगी। सीएमडी, ओएनजीसी के लिए भी इंटरव्यू किया गया था। परंतु पीएसबी ने निर्णय लिया है कि इसकी सर्च वाइड होनी चाहिए, उसमें एक सर्च कमेटी बनाने की व्यवस्था है। सर्च कमेटी बनाने के लिए सिफारिश दी थी, इस कारण इसमें थोड़ा अधिक समय लग रहा है”।

Elaborating further:

“हमने एक मुख्य कमी पाई है कि मेरीन सेफ्टी का कैडर क्रिएट करना है। कुछ लोग थे, But they were kind of supporting the operations. अब हम उनको फ्रंट लाइन में लाकर जो डायरेक्टली सीनियर मोस्ट एसेट मैनेजर होगा या डायरेक्टर होगा, उनको डायरेक्टली रिपोर्ट करेंगे। हमने उन लोगों को निकालकर रिपोर्टिंग पैटर्न चेंज कर दिया है और फरदर बाहर से लोगों को इंडक्ट कर रहे हैं, जिससे कम से कम पूरी एडवाइज़ दे सकें और कोऑर्डिनेट कर सकें, क्योंकि यह काफी स्पेशलाइज्ड इश्यु बन जाता है”।

1.90 As ONGC has suspended 5 officers pending enquiry by its Sr. officers, the Committee wanted to know the level these suspended officers belong to, the Ministry in its written reply submitted as under:

“Pending inquiry into the incident relating to Cyclone Tauktae, five officers were placed under suspension. Three of these executives are of the level of E-9 i.e. Executive Director which is the highest level below Board. One executive is of E-7 level (Chief General Manager) and one of E-6 level (General Manager)”.

1.91 The Committee wanted to know as to whether OISD conduct any enquiry or investigation into the cyclone disaster as it has been entrusted with safety of Offshore E&P activities, also provide a copy of the report findings, the Ministry in its written reply submitted the following information:

“OISD has been notified as competent authority to exercise the powers and functions as stipulated in the Petroleum and Natural Gas (Safety in Offshore Operations) Rules 2008 vide Gazette of India S.O. No. 1502(E) dated 18th June 2008 framed under the Oilfields (Regulation and Development) Act 1948. The said Rule 2008 is meant for regulation of safety in offshore facilities engaged in exploration and exploitation of petroleum & natural gas and matters connected therewith.

Facilities, as defined in the said Rule 2008, means offshore installation, plant, associated pipelines and cables and other equipment for petroleum activities but does not include supply and support vessels or ships that transport petroleum in bulk. So accommodation barges and vessels do not fall under the category of offshore facilities

and thereby do not fall under the OISD purview under Petroleum and Natural Gas (Safety in Offshore Operations) Rules 2008.

Directorate General of Shipping is the statutory authority under Merchant Shipping Act 1958 and other relevant acts. As regard to the statutory investigation, it is being conducted by Directorate General of Shipping as per the provisions of Section 359 of the Merchant Shipping Act 1958 (as amended).

Additionally, MoP&NG has constituted a three member High Level Committee (HLC) to inquire into the sequence of events leading to the stranding of ONGC vessels in the cyclone Tauktae vide F. No. 12031(11)/1/2021-ONG-II dated 19th May, 2021 led by Director General of Shipping with DG-DGH and JS-MoD as other members.

MoP&NG vide F. No. 12031(11)/1/2021-ONG-II dated 27th May, 2021 has associated ED-OISD with the HLC committee on the request of DG Shipping. ED-OISD has been associated with HLC attending meeting and deliberations. The draft report preparation is in progress”.

1.92 When asked whether High Level Committee appointed by the Government to enquire into the incidents during cyclone Tauktae has submitted its report, the Ministry reply in the affirmative. When the Committee sought to know findings of the high level Committee into the incident, the representative of the MoPNG made the following submission during the oral evidence:

“...जो कमेटी बनी है, उसकी रिपोर्ट अभी तक नहीं आई है। वैसे तो उस कमेटी को मात्र एक ही महीने का समय दिया गया था, लेकिन उस कमेटी ने और अधिक समय मांगा क्योंकि वे बहुत डिटेल में जा रहे हैं। बीच-बीच में उस कमेटी के मेम्बर्स के साथ हमारी मीटिंग हुई है और इसलिए उन्होंने हमें कुछ इंटरिम एडवाइस दी है। जब ‘ताउते’ साइक्लोन आया था, उसके बाद ही ईस्ट कोस्ट पर भी एक साइक्लोन आया था। उससे पहले इस कमेटी ने उसके आधार पर जो ऑब्जर्वेशंस की, फिर हमने उसके आधार पर कुछ करेक्टिव एक्शन लिया। हमने मंत्रालय के साथ भी मीटिंग की और शिपिंग मंत्रालय के साथ भी की। हमने शिपिंग सेक्रेटरी के साथ मिलकर ज्वायंट मीटिंग की। उसमें कमेटी ने कुछ प्वायंट-आउट की। एक तो को-ऑर्डिनेशन प्रॉब्लम थी। जैसे शिपिंग मंत्रालय उसके लिए कंट्रोल रूम को डी.जी./शिपिंग के तहत बनाता है और उसके बाद जो-जो संस्थाएं वहां उस समय काम कर रही होती हैं, जैसे ओएनजीसी कर रही होती हैं तो उनका अपना कंट्रोल रूम होता है, तो आपस में उनकी को-ऑर्डिनेशन ठीक हो, उसके बारे में उन्होंने कहा था तो वह भी एक व्यवस्था अब कायम कर ली गई है, ताकि यह क्लैरिटी रहे।

जहां तक ओएनजीसी की रिस्पॉन्सिबिलिटी का सवाल है तो ओएनजीसी का कंट्रोल रूम एग्जिस्ट करता है, इसलिए ओएनजीसी की इतनी रिस्पॉन्सिबिलिटी तो है कि उसके पास यह इंफॉर्मेशन पूरी होनी चाहिए कि कितने शिप्स या वेसेल्स उसने हायर किए हैं और वे किस समय, किस समुद्र

में चल रहे हैं और कितने वापस आ गए हैं और क्या वे किसी सेफ लोकेशन पर हैं या नहीं हैं। यह इंफॉर्मेशन रखना और यदि ओएनजीसी को पूरा यह विश्वास है कि अगर तूफान आने वाला है या कहीं कोई खतरा है तो वह शिप एक सेफ जगह पर पहुंच पाए, इसको एंज्योर करना इसकी जिम्मेदारी तो ओएनजीसी की ही है”।

1.93 The Committee sought to know about the steps taken by ONGC to strengthen its internal systems and structures to avoid cyclone Tauktae type incidents and to improve crisis/emergency response system, the Ministry in its written reply submitted the following information:

“Following measures have been taken by ONGC to avoid impact of cyclone Tauktae types of incidents:

- ONGC has hired M/s DNV GL Energy India Pvt. Ltd, a renowned international safety consultant on safety for carrying out assessment of Safety Management system in ONGC and shall give recommendations for further improving the Safety Management. The three phased project is of 18 months duration and to be completed by 6th April 2023. The work has begun since 7th October 2021.
- To facilitate Single point Authority for Vessel Information and Management (VIM) in offshore, Marine Cell has been created at Mumbai headed by Master Mariner with the responsibility of Marine safety of all vessels operated for ONGC. Marine cell will be single point availability of all information, Pre and post deployment of all vessels and monitoring their movement in Offshore. The Cell will ensure seaworthiness of all vessels operating for ONGC.
- A Task Force has been constituted by ONGC to review required technical specifications of each type of Barges/Vessels. The recommendations will be implemented once the report is submitted.
- Uniform Guidelines have been promulgated for issuing Risk based advisories during adverse weather conditions. Contact details of DGCOMM, Indian Navy, Indian Coast Guard, ONGC, and DGH with their escalation levels have been identified and incorporated in Emergency Contacts of Regional Contingency Plan (RCP).
- Emergency Response Plans for Offshore Rigs and Installations have been revised to address such extreme cyclone conditions. Regional Contingency Plan has been revised in consultation with Regional Coordination Committee comprising of Indian Navy, Air force, and Coast Guard”.

During the oral evidence, it was further informed by ONGC that:

“...हमने इंटरनल कमेटी बनाई है जिसमें सिस्टम एंड प्रोसिजर को देखा जाएगा। मुंबई में आर्गेनाइजेशन का जो स्ट्रक्चर है, दो-तीन बार मंत्रालय के साथ मंत्रणा हो चुकी है। आज की डेट में मुंबई में तीन एसेट्स हैं। इस घटना के उपलक्ष्य में नहीं बल्कि सुधार का एक बिन्दु बनता है, इनको किसी यूनिफाइड कंट्रोल में डाला जाए। इस तरह के क्राइसिस में एक टीम की तरह वर्क करें। इसके लिए विभिन्न डायरेक्शन्स दी जा रही हैं। मंत्रालय के डायरेक्टर ऑफशोर का काम

पहले मुंबई में ही था, अब ईस्टर्न ऑफशोर में भी हमारा प्रोजेक्ट है। लेकिन हम बेसिकली ये दो सेट-अप को ही केटर करते हैं।

..... मंत्रालय ने निर्णय लिया है कि डायरेक्टर ऑफशोर का हेडक्वार्टर मुंबई में होगा। इसके अधिकतर काम वहीं हैं। ईस्ट में भी काम है, लेकिन अधिक काम वही है”।

1.94 The Committee wanted to know as to whether the Ministry reviewed the system deficiency of upstream sector to strengthen the safety aspects, the Ministry in its written reply submitted as under:

“The lessons learnt from cyclone Tauktae were utilised for the successful handling of evasive action on the East Coast following cyclone warning issued for cyclone ‘Yaas’ just after the cyclone Tauktae in the month of May 2021. Meetings were held with all relevant stakeholders and SOP was framed by the Committee inquiring into cyclone Tauktae, circulated and monitored. SOP was again activated during recent cyclone ‘Jawad’ in December 2021. Review meetings were held at various levels to monitor the evasive actions taken by oil & gas industry, specifically in offshore based on past experience. The report submitted by High Level Committee on the system deficiencies and recommendations to further strengthen the safety aspects of upstream sector is under review and consideration of the Ministry for necessary action as recommendations pertain to multiple Ministries”.

Elaborating further, the representative of ONGC informed that:

“... इस घटना के बाद कुछ एक्शन्स लिए गए हैं। ओएनजीसी ने renowned international safety consultant DNV GL को हायर किया है, जो पूरे सेफ्टी मैनेजमेंट का असेसमेंट करेगा। उसके रिक्मेंडेशन्स आगे सेफ्टी मैनेजमेंट को इंप्रूव करने के लिए दिए जाएंगे। यह काम 7 अक्टूबर, 2021 से शुरू हो चुका है और फरवरी, 2022 को इसकी पहली रिपोर्ट आ जाएगी और उसके बाद से इसका इंप्लीमेंटेशन किया जाएगा।

... एक मरीन सेफ्टी सेल बनाया गया है, जिसके हेड एक मास्टर मरीनर है और उनकी रिस्पॉन्सिबिलिटी सेफ्टी ऑफ आल टाइम्स ऑफ वेसल्स की है, जो कि ओएनजीसी के लिए ऑपरेट हो रहे हैं। A single authority has been assigned for all information pre and post deployment. सारे वेसल्स और उनकी मॉनिटरिंग की मूवमेंट के लिए भी अथॉरिटी को असाइन किया है। मरीन सेफ्टी सेल द्वारा सी वर्दीनेस के लिए भी सारे वेसल्स को चेक करने की अथॉरिटी उनको दी है। यूनिफॉर्म गाइडलाइन्स भी इश्यू की गई हैं। Risk-based advisories during adverse weather एक सेन्ट्रलाइज्ड अथॉरिटी है, जो कि सारे कॉन्टैक्ट्स, एड्रसेस को डीजीकॉम को देगी, जो कि डीजीशिपिंग का कम्यूनिकेशन सेन्टर है और

कंट्रोल रूम है। इंडियन नेवी, इंडियन कोस्ट गार्ड, ओएनजीसी, डीजीएच और उनके एस्कलेशन लेवल्स भी आइडेंटिफाई करके इमरजेंसी कॉन्टैक्ट्स में अपडेट कर दिए हैं। जब भी इस तरह की एडवाइजरीज़ दी जाती हैं तो इन सभी लोगों को इंफॉर्मेशन दी जाती है।

.... अब वेदर एडवाइजरीज़ आइएमडी से डायरेक्टली ओएनजीसी के पास आनी शुरू हो चुकी है। इमरजेंसी प्लान्स ऑफशोर रिग्स और इंस्टॉलेशन के भी सारे इमरजेंसी प्लान्स रिवाइज हो गए हैं और उनमें एक्सट्रीम साइक्लोन कंडीशन को एड्रेस किया गया है। रीजनल कंटिन्जेंसी प्लान को भी रिवाइज कर दिया गया है। रीजनल कॉर्डिनेशन कमेटी, जिसके मैम्बर्स इंडियन नेवी, एयर फोर्स और कोस्ट गार्ड से हैं, वे सबके साथ मिलकर इस कंटिन्जेंसी प्लान को एक्सट्रीम साइक्लोन कंडीशन के लिए रिवाइज कर रहे हैं। बार्जेस का जो प्री डिप्लॉयमेंट इंस्पेक्शन है, उसको आगे के लिए स्ट्रेण्थन किया गया है और अब ओएनजीसी का जो मरीन सेफ्टी सेल है, वह इसका प्री डिप्लॉयमेंट ऑडिट और इंस्पेक्शन करता है और बकायदा इसकी रिपोर्ट भी इश्यू करता है। सर, ओएनजीसी ने इंडियन मेट्रोलॉजिकल डिपार्टमेंट से भी डिस्कशन शुरू किया है। अभी जो सिस्टम है, उसके अलावा अगर वे आगे कोई एडिशन करना चाहेंगे तो उसके ऊपर भी एमओयू पर साइन करने की तैयारी चल रही है। जो ऑफशोर इंस्टॉलेशन है, उसका साइक्लोन और एडवर्स वेदर रिलेटेड रिस्क के लिए रीअसेसमेंट किया जा रहा है।

बार्ज और वेसल्स के लिए एक टास्कफोर्स गठित की गई है, जो रिक्वायर्ड टेक्निकल स्पेसिफिकेशन्स ऑफ ईच टाइप ऑफ बार्ज एंड वेसल को एक प्रारूप देगी। हाई लेवल कमेटी की जो इंटरिम रिकमेंडेशन्स आई थीं, उन पर एक्शन लिया जा चुका है और फर्दर हाई लेवल कमेटी की जो रिकमेंडेशन्स आएंगी, उनके ऊपर हम लोग एक्शन लेंगे।

1.95 On being enquired about the kind of steps taken to use technology, robotics or artificial intelligence to reduce the number of personnel on hazardous/risky sites, the Ministry in its written reply submitted the following information:

"ONGC has put in place many technologies and barriers to reduce the number of personnel on hazardous/risky sites.

All major process parameters are available to employees electronically at offshore installations. So physical observation on regular basis for noting the parameters is reduced.

Wells can be closed remotely through SCADA system thereby reducing human intervention for closing the wells.

CCTV cameras are installed at strategic locations which can continuously scan the area and keep watch on employees to ensure their safety.

ONGC is pursuing/planning a number of technological interventions like digitization of the field that may lead to further reduction of manpower on hazardous/risky sites”.

1.96 The Committee wanted to know about the procedure for enquiry /investigation by Ministry of Shipping, the representative of MoS informed that:

“जितने भी जहाजों में इन्सिडेन्ट्स होते हैं, चाहे उनमें एक आदमी की डेथ हुई हो या इन्जरी हुई हो, सभी इन्सिडेन्ट्स का प्रीलिमिनरी इनवेस्टिगेशन होता है, जो मर्चेन्ट शिपिंग ऐक्ट में होता है। इन सारे जहाजों का भी प्रीलिमिनरी इनवेस्टिगेशन हो रहा है। यह बहुत ज्यादा टेक्निकल इनवेस्टिगेशन होता है। उसमें बहुत सारे कैलकुलेशन किए जाते हैं, उसके बाद नतीजा निकलता है कि ऐक्चुअली इसमें क्या गलती हुई थी। हमलोग प्रीलिमिनरी इनवेस्टिगेशन की रिपोर्ट हर साल कम्पाइल करके अपने सभी ट्रेनिंग इंस्टीट्यूट्स को भी भेजते हैं, ताकि उनको पता रहे कि क्या-क्या गलतियां हुई हैं और वे रीपीट न हो सकें”।

Safety Audit and Inspection Report

1.97 The Committee sought to know about the third party inspection agency of Barge P-305, the Ministry in its written reply submitted as under:

“ONGC appointed M/s Indian Register of Shipping (M/s IRS) a Third Party Inspection (TPI) Agency.

1.98 Elaborating on the role of third party inspection and certification agency, the representative of ONGC submitted that:

“.....मेरीन सेफ्टी का इश्यु बहुत कॉम्प्लेक्स है। इसके लिए हर चीज देखनी होती है, यानी सर्टिफिकेशन है तो अलग तरह का इंजीनियर एक्सपर्टीज़ चाहिए, वैसल्स आदि के लिए अलग तरह के एक्सपर्टीज़ चाहिए। So, depending on the kind of role which a person is required to perform on that particular vessel, EIL is a certifying agency, सीईआईएल के लोग भी वहां रहते हैं, जिनका स्पेसिफिक रोल रहता है, आईआरएस डैक अफसर रहता है, इस तरह के पांच आदमी ओएनजीसी वैसल्स के रिप्रेजेंटेटिव के रूप में रहते हैं। यहां जो भी सुझाव दिए जाएंगे, हम उन पर इम्प्लीमेंट करने की कोशिश करेंगे। यह बहुत स्पेशलाइज्ड सब्जेक्ट है, इसलिए इसमें ओएनजीसी के अंदर इतनी कैपेबिलिटी क्रिएट कर पाना मुश्किल होगा। यदि हम इंडियन रजिस्टर ऑफ शिपिंग और सर्टिफिकेशन एजेंसी से लेते हैं, तो हमेशा कम्फर्ट लेवल बेहतर रहेगा। हमें जो भी सुझाव दिए जाएंगे या जो कमेटी बनी है, सुझाव देगी, उसी हिसाब से कार्य किया जाएगा। हमें इसमें कोई दिक्कत नहीं है। हमारा आज की तारीख में मानना है, They are the most competent and are much better to handle it

professionally. हमारे लोग एडमिनिस्ट्रिटिव और कांटेक्चुअल रूप में उनसे सदा जुड़े रहते हैं और बात करते रहते हैं”।

1.99 The Committee wanted to know when was the Barge P-305 certified for deployment for the current season and to mention which agency certified and the officer responsible in ONGC for such works, the Ministry in its written reply submitted as under:

“Barge was certified for deployment on 04.11.2020 for the current season. CEIL, IRS has certified the compliance to HSE audit observations enabling deployment of Papaa-305”.

1.100 The Committee sought to know about that certification agency which deployed its safety officer at Barge P-305 along with details of the officer, the Ministry in its written reply submitted the following information:

“CEIL was the certification Agency appointed by ONGC has deployed Safety Officer at the Barge P305. Name of Safety Officer: Late Shri Arjun M T”.

1.101 The Committee sought to know when was safety audit conducted on the Barge P-305 by ONGC also, provide details w.r.t. the Master Mariner engaged through third party inspection (TPI) agency on board Barge P-305, the Ministry in its written reply submitted as under:

“Safety Audit of P-305 was carried out on 23.10.2020 prior to deployment to offshore. Name of Master Mariner: Captain Amit S Deshpande of TPI M/s IRS”.

1.102 On being enquired about the number of barges and vessels have been audited for safety during the last five years and the corrective course of action adopted to plug deficiencies therein, the Ministry in its written reply submitted the following information:

“In last five years, 168 number of barge safety audits were carried out. For all vessels deployed at offshore locations, a joint safety audit is conducted by team which includes representatives of ONGC, ONGC’s Certification Agency Safety Officer, ONGC’s Third Party Inspection Agency Master Mariner, and Con-tractor representative.

Safety audit of each barge is carried out with a standard checklist covering all statutory as well as project requirement. Observations requires corrective measures raised during the audit is barge specific and all critical compliance are attended and closed prior to vessel deployment to offshore. Other General compliance are ongoing and closed during offshore campaign. Further, on-board Certification Agency Safety officer and Third party Inspection agency deck officer monitor safe work , health and hygiene through-out the offshore campaign.

ONGC has hired a Third Party Inspection Agency (TPI) M/s ABSIV (American Bureau of Shipping Industrial Verification) for safety inspection of vessels. All vessels are inspected at the time of hiring to ensure compliance of all statutory requirements as well as technical specifications. Further all vessels are inspected every time they come to Nhava. A vessel is cleared for operation only if found seaworthy and all machinery/equipment are in operational condition. In case of any deficiency, the vessel is put under downtime till rectification of defects. Once the defects are rectified, the surveyor verifies and clears the vessel".

1.103 The Committee wanted to know the system and procedure to monitor the operational sea worthiness of vessels in ONGC, the Ministry in its written reply submitted the following information:

"ONGC has well-defined systems and procedure to ensure that the deployed vessel meets all the stipulated criteria w.r.t. sea worthiness of the vessel.

All vessels deployed in ONGC projects comply with provision of Life Saving Appliances / Fire Fighting Appliance (LSA/FFA) as per International Convention for the Safety of Life at Sea (SOLAS), (1974) Regulations.

The Barges / Vessels for offshore projects are deployed during the well-defined fair weather conditions. Barges/Vessels for offshore projects comply and meet with (i) Class certificates by classification agencies (ii) ISPS code (International Ship and Port facilities Security) (iii) MARPOL, (v) SOLAS (iv) General Trading License (GTL) / Specified Period License (SPL) (v) Flag Requirement.

ONGC rely on domain experts i.e., Master Mariner as well as Deck Officer are engaged through Third party inspection agency (TPI) for carrying out Marine side inspection/ monitoring of barges/ vessels chartered by LSTK contractor for the project work.

For all vessels deployed at offshore locations, a joint safety audit is conducted by team which includes representatives of ONGC, ONGC's Certification Agency Safety Officer, ONGC's Third Party Inspection Agency Master Mariner, and Contractor representative.

During the audit it is verified that the Barge has all necessary statutory certificates required for fitness or sea worthiness of its deployment to sea for carrying out intended operation.

Safety Audit of P-305 was carried out on 23.10.2020 prior to deployment to offshore. Audit report was signed by above team and its compliance/ closure is attached".

1.104 When asked to provide details of the responsibilities of officers of ONGC regarding visit, inspection and monitoring of compliance of the terms of contract and other laws along with the number of inspections were carried out during the last one year, the Ministry in its written reply submitted the following information:

"For execution of offshore LSTK construction projects, ONGC has separate project teams for each project. The Project Manager, Project Coordinator and his team of

project engineers interact on regular basis with all the stakeholders including LSTK contractors, Third party inspection agency, and Certification agency and other stakeholders and coordinate with them to carry out the projects as per contract terms and conditions.

ONGC carries out inspections, surveys, audits etc. through its own officials as well as through empanelled TPIs in addition to Statutory Flag (through MMD or Recognized Organizations), OISD and Class surveys / inspections (as ABS, IRS, DNV etc.). These surveys are undertaken as per IMO Regulations (SOLAS, MARPOL etc.), MS Act, Rules made under this Act and other Acts / Rules of Flag State.

To ensure compliance of the terms of contract, ONGC engages Third party Certification Agency (TPCA) and Third Party Inspection agency (TPI) who are deployed throughout the project cycle as per project requirement at various work site i.e., design center, Vendor premises, fabrication yards and offshore construction barges.

In this case, ONGC appointed TPI representative and was continuously deployed on the barge (P-305) for continuous inspection and monitoring”.

1.105 The Committee sought to know as to whether any inspections were carried out to ascertain the strength/capability of the vessels to withstand the impact of cyclone after receiving the weather warning, the Ministry in its written reply submitted as under:

“As submitted earlier, during cyclone TaukTae, all barges were advised to move to safe locations. Assessment of the severity of the cyclone and the consequent steps to be taken to ensure safety of the vessel and crew lies with the Barge Master. Information regarding assessment carried out by Barge master is not available with ONGC”.

1.106 On being asked about the role and responsibility of officials of ONGC appointed for supervision/monitoring of barges along with the details of the officials who were entrusted with responsibility for safety of these barges, the Ministry in its written reply submitted the following information:

“ONGC appoints Deck Officer for supervision/ monitoring of Barges through Third party Inspection agency. Deck officer needs to have Certificate of Competency as minimum Second Mate (Foreign going (F.G.) or Near Coastal Vessel (NCV) issued by Director General of Shipping (DG Shipping) or equivalent certificate of competency approved/ endorsed by D.G. Shipping with at least 2 years on board experience as independent watch keeping officer.

Main Roles and responsibilities are listed as under:

- Ensure compliance of ONGC's Marine Operations Manual
- On-site monitoring of the execution of the approved anchor-handling plan

- Ensure safe positioning/anchoring of barges/vessels when not engaged in construction/other project related activities
- Check actual position of anchors with respect to the approved anchor pattern
- Report any anchor drag or any violations of ONGC anchor handling policy
- Any other jobs as assigned by ONGC as deemed necessary for improvement in safety of offshore operations”.

1.107 The Committee sought to know as to whether the personnel deployed at offshore have been provided any training to deal with disasters/emergencies also, what are the proactive measures to be taken in order to avoid recurrence of such incidents, the Ministry in its written reply submitted the following information:

“As part of prerequisite for deployment at offshore, persons need to undergo following trainings:

1. Personal Sea Survival Training
2. Fire Prevention and Fire Fighting
3. Basic First Aid Training
4. Helicopter Underwater Egress Training (HUET; for personnel travelling by Helicopter).

ONGC is pursuing the following proactive measures to be taken in order to avoid recurrence of such incidents:

- Review of System for Weather Forecast and Monitoring: In the backdrop of Cyclone Tauktae, ONGC had discussion with Director General of Meteorology, IMD for providing Weather and Cyclone Forecasts specific for our fields Western & Eastern Offshore and a MOU is being discussed.
- Single point Authority for Vessel Information and Management in offshore: Marine cell has been created headed by Master Mariner with the responsibility of Marine safety of all vessels operated by ONGC. Marine cell will be single point availability of all information, Pre and post deployment, of all vessels and monitoring their movement in Offshore.
- Review of SOP, ERP, DMP and Bridging documents: These documents are being reviewed to identify gaps and to suitably address Cyclone Emergency Response”.

1.108 The Committee wanted to know whether training of contractual employees/labourers is ensured by principal employer to principal employee at onsite training centres, the Ministry in its written reply submitted as under:

“ONGC ensures that all contractual person deployed at offshore are adequately trained in Fire-Fighting, Survival at Sea and other mandatory Safety as well as operational trainings.

The credentials / certificates are verified by Security Section before issuing Non-Employee Duty Passes, which are mandatory for visiting offshore”.

1.109 The Committee sought to know as to whether there is any system to monitor the vessels/barges in real time like live feed through CCTV cameras so that the events are properly documented in audio visual format, the Ministry in its written reply submitted as under:

"There is no system to monitor the vessel/ barge in real time to capture events in audio visual format. However, all vessels/barges have Automatic Identification System (AIS) by which the vessels locations are available real-time".

1.110 The Committee wanted to know about the monitoring mechanism available with ONGC to ensure safety and security of vessels at offshore platforms, the Ministry in its written reply submitted the following information:

"Project HSE Manual' comprising of HSE policy of LSTK Contractor and ONGCs Marine Operation Manual and, Regional Contingency Plan is used as guideline for adhering to safety during project life cycle. LSTK Contractor is the primarily responsible for ensuring adherence to the HSE manual and its implementation at site.

The barges/vessels for offshore projects are deployed during fair weather conditions. Barges/vessels for offshore projects comply and meet with (i) Class certificates by classification agencies (ii) ISPS code (international Ship and Port facilities security) (iii) MARPOL, (v) SOLAS (iv) General Trading License (GTL) / Specified Period License (SPL) (v) Flag Requirement

Barges / vessels are deployed only after having necessary clearances from various Govt. of India authorities i.e. Ministry of Defence Clearance , Ministry of Home Affairs (MOHA) for deployment of expatriates , DGH clearance (Essentiality Certificates) for Imported vessels , Naval Security Clearance (NSC).

Safety Audit of Barge is carried out before deployment at offshore which is valid for a working season. Fresh safety audit is carried out by safety audit team when it is offered for next working season. Safety audit team is led by ONGC appointed Master Mariner engaged through Third Party Inspection Agency (TPI). To ensure safety at barge after its deployment at offshore, a Safety Officer is deployed at the Barge by ONGC through its Certification Agency and one Deck Officer at the Barge through its Third party Inspection Agency throughout the working duration for on-site monitoring of the execution of the approved anchor-handling plan, ensure compliance of ONGC's Marine Operations Manual, in position Survey etc.

Mock drills are used as a means of training specific personnel and teams to carry out procedures and to give instruction in use, handling or operation of any emergency equipment which may be appropriate. Mock Drill include various type of drill including but not limited to Man over board, Fire drill , Gas leak & platform evacuation drill ,Abandon ship drill. Post deployment of P-305 in field 11 Mock drills and 182 Tool Box Talks were held for ensuring preparedness of the crew to respond to any crisis and emergency situations".

1.111 Various media publications reported that life-saving jackets and rafts were found punctured in the Barge P-305. In this regard, the Committee asked for a report on the inspections done during the last one year, the Ministry in its written reply submitted as under:

"Reports for Inspection of Life raft carried out by M/s Singh Hindustan marine Pvt. Ltd. (approved service station for LSA/ FFA by DG Shipping) as on 01/09/2020 have been attached. The Service Certificate is valid for 12 months from date of survey".

1.112 The Committee also come to know that the Barge P-305 did not have a self-propelled engine for movement. In this regard, the Committee asked for details w.r.t. its functioning before and after the disaster, the Ministry in its written reply submitted as under:

"Barge P305 was an accommodation work barge approved as per MODU (Mobile offshore drilling unit) class. The barge is not self-propelled and has one Tug boat for towing, Anchor Handling and infield movement and this is as per standard industry practice. The barge P-305 was having Nove as tug boat which is always available with the barge in the field before and after the disaster.

During the sitting of the Committee held on 28.06.2021, a presentation was made on the subject wherein it was mentioned that there were eight anchors attached to the Barge P-305 and all of them were snapped out one after another due to the intensity of high speed winds and huge waves".

1.113 The Committee sought to know about the anchoring management mechanism when eight of the anchors of the P-305 were broken down, the Ministry in its written reply submitted as under:

"As per ONGC Anchor Handling Policy in case of bad weather, AHT (Anchor Handling Tug) is to be connected to the tow line of the barge to reduce the load on the anchors and mitigate any possible drag on the anchors".

1.114 When asked about the test report of anchors given that the anchors were certified in 2004 and whether any tests were conducted recently, the Ministry in its written reply submitted the following information:

"Anchors are inspected during the dry docking of vessels and there is no separate certificate issued in this respect. Last dry-dock of vessel was carried out in Dubai in July 2019. Dry dock interval as per class requirements is not more than 5 years".

1.115 On being enquired about the conditions and provisions in the contract of employment of technical experts/marine engineers onboard the Barge P-305, the Ministry submitted the following information:

"Offshore Construction projects are executed by appointing LSTK (Lump sum turn key) contractor on EPC (engineering procurement and construction) basis. Chartering of barges and Employment of technical experts/marine engineers onboard to execute the project are done by LSTK contractor. To ensure compliance of the terms of contract, ONGC engages Third party Certification Agency (TPCA) and Third Party Inspection agency (TPI) who are deployed onboard barges/vessels as per project requirement".

1.116 On being enquired about the number of technical experts were onboard the Barge P-305 on the day of mishap, the Ministry in its written reply submitted the following information:

"Total 21 number of technical experts for project work execution were onboard P-305 on the day of mishap".

ONGC deputed technical experts (5 nos): CEIL – 2 numbers, EIL – 1, IRS – 2

Afcons deputed technical experts (16 nos): Fugro – 2, Boustad – 1 and Afcons – 13

In addition to above, 23 number of Marine crew from PAPAA shipping were also present onboard".

1.117 The Committee sought to know as to whether ONGC officials have signed a safety audit report of dated 23.10.2020 of P305, the Ministry in its written reply submitted the following information:

"As a regular practice, Safety Audit of Barge is carried out before deployment at offshore which is valid for a working season. This is a physical audit carried out by a Safety audit team comprising of representatives of ONGC, ONGC's Certification Agency Safety Officer, ONGC's Third Party Inspection Agency Master Mariner, and Contractor.

It is pertinent to mention that the physical audit of another vessel, MV Goodman was carried out on 18.09.2020 wherein ONGC officials along with the entire vessel crew got COVID infection.

Therefore, in order to avoid spread of COVID at offshore, physical audits were continued to be carried out with team of 2 officers who have core competency (Third Party Safety officer & Master Mariner) and rest of the team joined the Audit through video conferencing.

Since ONGC team joined the audit through video conferencing, safety audit report was not signed by ONGC officials, however, the report was accepted by ONGC and same was communicated to Lump Sum Turnkey (LSTK) contractor for compliance".

1.118 The Committee sought to know about the role of OISD in safety and security of Barge P-305 and any safety audit that had been conducted by OISD in the last three years on P-305, the Ministry in its written reply submitted the following information:

"OISD has been notified as competent authority to exercise the powers and functions as stipulated in the Petroleum and Natural Gas (Safety in Offshore Operations) Rules 2008 vide Gazette of India S.O. No. 1502(E) dated 18th June 2008 framed under the Oilfields (Regulation and Development) Act 1948. The said Rule 2008 is meant for regulation of safety in offshore facilities engaged in exploration and exploitation of petroleum & natural gas and matters connected therewith.

Facilities, as defined in the said Rule 2008, means offshore installation, plant, associated pipelines and cables and other equipment for petroleum activities but does not include supply and support vessels or ships that transport petroleum in bulk. So accommodation barges and vessels do not fall under the category of offshore facilities and thereby do not fall under the OISD purview under Petroleum and Natural Gas (Safety in Offshore Operations) Rules 2008 and hence no audit was conducted by OISD on P-305".

1.119 Elaborating further about the role of OISD in offshore facilities, the representative of MoPNG during the oral evidence submitted the following:

"...जो ऑयल इंडिया सेफ्टी डायरेक्टेरेट है, यह मंत्रालय के अधीन काम करती है और यह सेफ्टी के मापदंडों को बनाती है और उसके बाद वह जगह-जगह उसकी इंस्टॉलेशंस पर जाकर उनकी इंस्पेक्शन करती है। जो वेसेल्स और शिप्स हायर होते हैं, उनके लिए डायरेक्टेरेट ऑफ शिपिंग हैं। उनके यहां से उनकी मॉनिटरिंग होती है क्योंकि उनके लिए उसका टेक्निकल डिपार्टमेंट वह है। जो ऑयल रिलेटेड काम हैं, उसके लिए हमारा मंत्रालय है, पर शिपिंग के लिए शिपिंग मंत्रालय है। इसलिए उसकी टेक्निकल नॉलेज ज्यादा शिपिंग मंत्रालय और उनकी जो एजेंसीज हैं, सारी कार्यवाही वहीं होती है। परन्तु, चूंकि ओएनजीसी शिप्स को यूज करने वाली एक बहुत बड़ी संस्था है। वेस्ट कोस्ट पर हमें बताया गया था कि इस प्रकार की जो शिप्स हायर होती हैं, यूज होती हैं, उनमें लगभग 40 प्रतिशत काम ओएनजीसी का ही होता है। इसलिए ओएनजीसी को भी इसके बारे में ठीक नॉलेज हो और ठीक समझ हो, यह आवश्यक है।"

1.120 The Committee sought to know as to whether any joint safety audit is conducted for vessels deployed at off-shore locations, the Ministry in its written reply submitted as under:

"As a regular practice, Safety Audit of Barge is carried out before deployment at offshore which is valid for a working season. Safety audit team comprises representative of ONGC, ONGC's Certification Agency Safety Officer, ONGC's Third Party Inspection Agency Master Mariner, and HSE team from Contractor".

1.121 When asked about the obstacles to have a Unified Safety Board as there is multiplicity of agencies involved in the safety and security of offshore installations, the Ministry in its written reply submitted the following information:

"Ministry of Petroleum & Natural Gas (MoP&NG) brought a proposal to constitute a Petroleum & Natural Gas Industry Safety Board (PNGISB) before Committee of Secretaries (CoS). After due deliberations with all stakeholders, CoS at the meeting held on 19.08.2016, recommended, inter-alia, that strengthening existing regulatory agencies/bodies may be preferred to creation of a new organization. Thereafter, inter-ministerial meetings were held among the stakeholders, viz., Ministry of Labour & Employment (administering the Directorate General of Mines Safety, DGMS), Ministry of Commerce & Industry, Dept for Promotion of Industry & Internal Trade (administering the Petroleum & Explosives Safety Organization, PESO), apart from the Ministry of Petroleum & Natural Gas, to arrive at convergence of views on the issue of having a single body to administer safety related aspects of the Petroleum Industry. MoP&NG is strengthening the Oil Industry Safety Directorate (OISD) by removing overlaps between the ambit of OISD and the Petroleum & Natural Gas Regulatory Board (PNGRB), both of which are under its administrative control and no new Board is planned to be formed at present".

1.122 The Committee sought to know about the steps taken towards enhancing safety in ONGC installations in the aftermath of barge P-305 incident, the Ministry in its written reply submitted the following information:

"Adherence to Safe Practices, Procedures and Regulations is the responsibility of OIM/Captain/Barge Master. Monitoring and ensuring compliance is the responsibility of Safety Officer/HSE Manager/Deck Officer at each Installation/Rig/Barge. In addition, after the incident, a Marine Cell, headed by Master Mariner, has been created at Offshore as single point authority for safety of vessels and marine spread.

Notably, the Indian Navy (IN)/Indian Coast Guard (ICG) and Indian Air Force, by virtue of their statutory responsibilities for the defense and security of the Coastline and Exclusive Economic Zone/EEZ of India are also responsible for the security, defense and protection of offshore infrastructure of ONGC.

Significantly, the various instructions on Offshore Security were compiled and a document called Cabinet Committee on Political Affairs (CCPA) directives (Classified Document) was issued vide letter dated January 17, 1986 of Cabinet Secretariat, Rashtrapati Bhawan, New Delhi. This document as of now serves a guiding principle for Offshore Security.

The security responsibility of ONGC as an operator is limited to onboard security of offshore platforms. All planning and policy aspects of Offshore Security and Defense covering territorial waters, continental shelf, Exclusive Economic Zone are being handled by the Flag Officer Defence Advisory Group (FODAG), which was constituted on December 31, 1983. FODAG functions as the nodal agency for all interaction with ONGC and other oil Exploration & Production (E & P) companies in matters relating to defence of offshore installations within the Maritime Zones of India. The organization is

headed by Flag officer Defence Advisory Group (FODAG), who was later re-designated as "FODAG and Advisor Offshore Security and Defence to the Government of India/Gol" on 25 Jun 02.

Additionally, the ICG ships and aircraft undertake regular patrols to keep the ODA seaboard under surveillance. ICG is the agency responsible for coordinating Search and Rescue (SAR) in the Indian Search and Rescue Region (ISRR). ICG is the "first-responder" for oil-spills in Indian waters".

1.123 On being enquired about the role of ONGC officials when the safety inspection and certification has been entrusted to 3rd party inspection agencies, the Ministry in its written reply submitted the following information:

"ONGC ensures that all the barges are inspected as per the safety audit check list every time mobilization takes place. The observations issued during the audit are examined by ONGC and the compliance is ensured before the barge is deployed for the work under LSTK Project.

The third party Inspection agencies are hired by ONGC and it is ensured that the personnel deployed for inspection are experienced and certified to carry out such audits".

1.124 When the Committee sought to know about the agency responsible for safety for Barges and vessels, the Ministry in its written reply submitted the following information:

"Accommodation barges and vessels do not fall under the category of offshore facilities and thereby do not fall under the OISD purview under Petroleum and Natural Gas (Safety in Offshore Operations) Rules 2008.

Directorate General of Shipping is the statutory authority under Merchant Shipping Act 1958 and other relevant acts".

1.125 It is seen from the information furnished to the Committee that the test reports of wire rope used in the Barge P-305 for anchors were conducted in May, 2017. In this regard, the Committee sought to know that how long these test reports are valid and whether any tests have been conducted after 2017, the Ministry in its written reply submitted as under:

"Test reports for the wire rope in the instant case are of year 2017 and Minimum Breaking Load Test reports for Wire Ropes are valid for 5 years (as per ILO 152)".

1.126 The Committee wanted to know that how old the cranes operating in offshore installations are and has any safety audit of these cranes also undertaken in the last five years, the Ministry in its written reply submitted as under:

"As on date 314 cranes are installed on Process and Wellhead platforms of Western Offshore of ONGC. The details regarding vintage of cranes in Western Offshore of ONGC are as under:

- Less than three years -- 18
- Between 3 to 5 years -- 18
- Between 5 to 10 years -- 54
- Above 10 years -- 224

Inspection and load testing is done by TPI (Third party inspector). Inspection is done by OEM on demand before taking up for revamping".

1.127 The Committee sought to know about the policy for replacement of old cranes in offshore installations and the maintenance contract entered into with any agency for the same and the value of the contract and how much does it come to annual expenses per year for one crane, the Ministry in its written reply submitted as under:

"As per existing equipment replacement policy, crane replacement period is prescribed as 20 years & beyond. Design life of crane is 25 years.

Replacement of cranes has to be considered when the cost of revamp is more than 75% of the cost of new crane or when No OEM support or spare parts available or when permanent change in field parameters rendering the equipment unfit for use.

Condition based revamp of cranes through OEM is resorted to when (i) Cost of revamping is less than 75% of cost of new crane (ii) OEM support for spares and services for extended period is assured

ONGC has O&M contract for maintenance of the cranes in offshore. As regard of 316 cranes of ONGC (including 2 crane of Eastern Offshore Asset) in offshore operations, an amount of Rs. 4.29 crore (approx.) is incurred annually for maintenance of these cranes considering last five years maintenance cost. Apart from it, an amount of Rs. 207.61 crore was incurred in last 5 years on spares, services and revamping of cranes with vintage above 10 years in western offshore region.

Similarly, as regard of ONGC 20 numbers of owned cranes for offshore drilling operations, an amount of Rs. 7.609 crore (approx.) incurred annually for maintenance of cranes considering last three years maintenance cost".

1.128 During the oral evidence, it was also informed about replacement of equipment after their life that:

"We have got a well-defined obsolescence policy, जो यह बताती है कि कितने सालों में क्या होना है। मैं आपको अश्वोरेंस देना चाहता हूँ कि हम उसी के तहत चलते हैं। उसमें किसी भी तरह का कॉम्प्रोमाइज नहीं होता है। हमारे पास एक वेल डिफाइन मेनटेनेंस और इंस्पेक्शन का प्रोसिजर है। हर एक रिफाइनरी का तीन या चार साल का टर्न अराउंड

पीरियड रहता है, depending on the units. उसके तहत पूरी रिफाइनरी के सभी इक्वूपमेंट्स का डिटेल्ड इंस्पेक्शन होता है और जब तक इंस्पेक्शन रेकमेंडेशन इम्प्लीमेंट नहीं होता है तब तक उसका स्टार्टअप क्लीयरेंस नहीं मिलता है। We are aware that एक कमी से पूरी रिफाइनरी का डिजास्टर हो सकता है तो इसलिए उसका पूरा ख्याल रखा जाता है”।

Role of Safety council after Cyclone Tautkae

1.129 The Committee sought to know about the last meeting of the Safety Council held, the Ministry in its written reply submitted that last meeting of the Safety Council was held on 23rd August 2021.

1.130 The Committee sought to know as to whether Safety Council had deliberated on the Tautkae incident and asked to furnish a copy of the minutes, the Ministry in its written reply submitted as under:

“Western Offshore mishap of ONGC was a part of presentation for the 38th Safety Council meeting under the heading “Major Incident”. Since a High-Level Committee (HLC) was constituted by the Ministry vide F.No.12031(11)/1/2021-ONG-II, dated 19th May, 2021 to inquire into the sequence of events leading to the stranding of ONGC vessels in the cyclone “Tautkae” and the initial proceeding of the HLC was going on, hence the incident was only briefly discussed and not recorded in the minutes of the meeting.”

Relief Measures and Compensation Package

1.131 When asked about the number of people declared missing in the incident cyclone Tautkae and whether all the missing persons/bodies have been identified, the Ministry in its written reply submitted the following information:

“On May 17, 2021, Cyclone Tautkae had hit Arabian Sea off the coast of Mumbai. The construction barge P-305 of M/s Afcons and Tug boat Varaprada working on a project of ONGC sank during cyclone. A total of 274 people were on board on Barge P-305 and Tug boat Varaprada.

The status of Brave Nature Victim's in the incident cyclone Tautkae is as under”:

i.	Total onboard personnel	274 (Papaa 305-261 & Varaprada-13)
ii.	Survivors	188 (Papaa 305-186 & Varaprada-2)
iii.	Brave Nature's Victims (BNVs)	86 (Papaa 305 – 75 & Varaprada – 11)
iv.	Recovered and identified	77

v.	Missing	09
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1.132 The Committee wanted to know the steps being taken to identify the missing bodies, the representative of the ONGC during oral evidence submitted that:

“... मैं बताना चाहता हूँ कि 75 लोगों की बॉडीज़ आइडेंटिफाई हो चुकी हैं। अभी 11 लोग बचे हैं। उनके जो हालात हैं, वह डीएनए टेस्ट से ही हो सकता है। अभी एक फैमिली मेम्बर को बुलाया गया था, उनके डीएनए टेस्ट से वह मिला है। अभी दूसरे फैमिली मेम्बर के साथ उसका डीएनए मिलाया जा रहा है। ऐसे पाँच-छह टेस्ट हो चुके हैं। हमें आशा है कि जल्द ही यह काम कर लिया जाएगा”।

1.133 When asked about the exact number of missing personnel of various barges and vessels at ONGC offshore platforms including the Barge P-305 and Varaprada, the Ministry in its written reply submitted the following information:

“There were 75 Brave Nature’s Victims (BNVs) from P305 and 11 BNVs from Varaprada.

As on 8th July 2021, 68 Brave Nature’s Victims from Barge P-305 have been identified and DNA identification of remaining 7 Brave Nature’s Victims (BNV) is in progress.

Out of 11 BNV from Varaprada, 8 BNVs have been identified and handed over to family members and identification of balance 3 BNVs is in progress”.

1.134 The Committee wanted to know as to whether any special team has been formed by ONGC to collect information about the bereaved families, the Ministry in its written reply submitted the following information:

“Special teams were formed to contact the family of impacted persons, both who survived and also those who were unfortunately missing or couldn’t survive. This team of officers contacted the individuals concerned in case of survivors and the bereaved families to ascertain their wellbeing and also to seek bank account details so that the immediate financial assistance of Rs.1.0 lakh to survivors and Rs.2.0 lakh to beneficiary of BNV (Brave Nature’s Victim) could be handed over in person at location of their choice.

In case of BNVs, the families were graciously given the option of receiving the body of their beloved at a place of their choice and help in cremation or if they desired to come down to Mumbai, the families were extended logistics support (including air ticket), boarding and lodging in Hotel at Mumbai.

A special team of ONGC Officials was deputed at the Hospital where post-mortem was carried out for smooth coordination between the affected families.

A nodal officer was assigned from ONGC for families of each BNV (Brave, Nature's Victim), who was responsible for facilitating logistics, boarding & lodging, counselling, interaction with police authorities, transportation of mortal remains to respective home station and any other local support".

1.135 When asked about the immediate relief being provided to those affected by the incident, the representative of MoPNG stated that:

“हमने बहुत स्ट्रॉंग मैसेज दिया। ओएनजीसी ने इमीडिएट रिलीफ दी है। उसके बाद एफकॉन को भी कहा कि जिनकी जान गई है, केवल आप उसके लिए जिम्मेवार नहीं है, बल्कि जो लोग इस हादसे से गुजरे हैं, उन्होंने भी एक ट्रॉमा सहा है, इसलिए उनको भी आप कुछ रिलीफ दीजिए। ओएनजीसी ने तो उनको रिलीफ दी है। ओएनजीसी ने उनको एक-एक लाख रुपया दिया। यह केवल इमीडिएट रिलीफ थी। अभी एफकॉन ने भी उनको एक-एक लाख रुपये की रिलीफ दी है”।

The Committee further asked the role of Ministry of Shipping in ensuring compensation by private agencies, it was further informed that:

“मैंने डी.जी. (शिपिंग) को भी निवेदन किया था, क्योंकि शिपिंग इंडस्ट्री में इनका इन्फ्लूएन्स ज्यादा है, इसलिए आप भी एक मीटिंग करके उन पर दबाव डालिए कि जहाँ भी इस बारे में दिक्कत आ रही है, उसको दूर किया जाए और अमाउन्ट जल्दी रिलीज हो। इसको हम समय-समय पर मॉनिटर करेंगे और एन्शोर करेंगे कि टाइम बाउण्ड मैनर में सभी को रिलीफ मिल जाए”।

1.136 When asked to provide details w.r.t. the planning of the ONGC to take up full responsibility for ensuring education of children belonging to the bereaved families, the Ministry in its written reply submitted the following information:

“The responsibility of ensuring education of children of BNV's is an issue to be decided by their respective employer”.

Elaborating further, the representative of ONGC informed that:

“जहां तक बच्चों की पढाई की बात है, वह पूरा एनालिसिस हो गया है। हमें बताया गया है कि 35 इंप्लॉईज़ ऐसे थे, जिनकी फेमिलीज़ और बच्चे थे। ऐसे 75 बच्चे हैं, जिनकी एजुकेशन के लिए उनसे बात हुई है। 12वीं क्लास तक की एजुकेशन का खर्च वे करेंगे। वे एक ट्रस्ट बनायेंगे। पिछली बार भी इसस बारे में बात हुई थी। यह विषय काफी आया था कि अभी तो यह चीज मॉनीटर हो जाती है, लेकिन दस सालों तक कैसे मॉनीटर होगी? हमने इस तरह का मैकेनिज्म बनाने की बात की थी। अभी उन्होंने कन्फर्म नहीं किया है, लेकिन यह था कि किसी एस्क्रो अकाउंट में पैसा डाल दें। एफकॉन को कल कुछ हो जाता है या एफकॉन किसी तरह विदड्रा कर ले या अपनी जिम्मेदारी से पीछे हटने की कोशिश करे, तो वह न हो पाए। माननीय मंत्री महोदय और सचिव महोदय ने भी इस बात पर बहुत जोर दिया था, तो हमने उनसे बात करके इस तरह के एस्करो अकाउंट को

क्रिएट करने की बात की थी। वह बात उन्होंने सुन ली थी और उन्होंने कहा था कि वे इस पर गौर करेंगे। संभवतः वे इसे कन्फर्म कर देंगे”।

1.137 The Committee sought to know about the kind of interim arrangements have been made by ONGC to help the next of kin among Brave Nature Victim's families of P-B-305, the Ministry in its written reply submitted as under:

“As an immediate relief, apart from insurance and other facilities available to the workers from their employers, ONGC has already disbursed grant of ex-gratia payment amounting to of Rs 2 lakhs (for 86 BNVs; 75 of P-305 and 11 of Varaparada) to the next of kin of each deceased and Rs 1 lakh to each of the 188 survivors (186 of P-305 and 2 of Varaparada) - amounting to Rs 3.60 Crores. All 274 (86+188) cheque except one (family refused to accept) have been handed over to concerned persons or their nominees.

As explained above, the families or the survivors were contacted to understand their immediate problems and facilitate their travel arrangement in case of survivors who had lost their belongings and were provided food, personal effects and travel arrangement to their respective destination across the country.

ONGC also facilitated post-mortem and helped arranging of cremation wherever requested and also for sending the body at native place, if so requested.

The financial assistance of Rs. 2.0 lacs was delivered to the next of Kin at their native places all over the Country”.

1.138 The Committee sought to know as to whether any compassionate appointments have been offered to eligible members from these families, the Ministry in its written reply submitted that compassionate appointment is an issue to be decided by their respective employer.

1.139 When the Committee wanted to know whether there is any timeline before ONGC to settle all financial claims of the bereaved families, the Ministry in its written reply submitted as under:

“As an immediate relief, apart from insurance and other facility under contract to the workers from contractor, ONGC has already disbursed grant of ex-gratia payment amounting to of Rs 2 lakhs (for 86 BNVs; 75 of P-305 and 11 of Varaparada) to the next of kin of each deceased and Rs 1 lakh to each of the 188 survivors (186 of P-305 and 2 of Varaparada)- amounting to Rs 360 Lakhs. All 274 (86+188) cheques except one (family refused to accept) have been handed over to concern persons or their nominees in person at location of their choice across the country.

LSTK contractor M/s AFCONS vide its press release stated that it would ensure that the families of the deceased would receive a total compensation equivalent to balance period of service up to 10 years salaries through a combination of ex gratia pay-outs and insurance compensation. While the modalities of the payments are being worked

out, it is estimated that total compensation would range from Rs 35 lakhs up to Rs 75 lakhs per family. As an immediate relief, M/s AFCONS has confirmed that they have made payment of Rs 5 lakhs to the next of kin of each deceased (66 identified BNVs) amounting to Rs 330 lakhs.

The insurance amount and other facilities to the BNV's is to be settled by the contractor being the employer of BNV's".

1.140 The Committee further wanted to know the exact compensation package to the BNV's, the representative of the ONGC during oral evidence informed that:

“जो अल्टीमेट एम्प्लॉइअर थे, इसमें भी दो तरह का था, इसमें अल्टीमेट एम्प्लॉइअर का लगभग 7 से 11 लाख रुपये था और जो एफ्कॉन्स ने ले रखा है, वह 11 से 18 लाख रुपये है। लेकिन लॉ के हिसाब से दोनों में से एक ही मिल सकता है। इसलिए जो एफ्कॉन्स वाला 11 से 18 लाख रुपये हैं, वही मिलेगा। उसके बाद भी उसका टॉपअप अपने अरेंजमेंट से कर रहे हैं। लंबे पीरियड के लिए पूरी फैमिली के सर्ववाइल का एक मैकेनेजिम बने और बच्चों के पढ़ाई का अरेंजमेंट हो, जिसमें मैंने बताया कि 30-35 लाख रुपये से लेकर 60-70 लाख रुपये की व्यवस्था होगी”।

1.141 The Committee drew the attention towards certain families of BNV's not accepting Rs.2 Lakh interim relief, the representative of the ONGC during oral evidence submitted that:

“... ऐसी स्थिति नहीं है। बाकी सभी ने अक्सेप्ट कर लिया है और सबको दे दिया गया है। वास्तव में हमें मंत्रालय का भी बड़ा सहयोग रहा है। कई जगह हमारे ऑफिसेज़ नहीं हैं, उन्होंने डिफरेंट कंपनीज़ जैसे एचपीसीएल व बाकी कंपनियों के माध्यम से उन्हें घर पहुँचवाया, क्योंकि यह भी जरूरी था। वह एक फौरी राहत के माध्यम से किया गया और बाकी चीज़ हम एफ्कॉन्स के साथ कर रहे हैं”।

“अभी जो लेटेस्ट सूचना है, वह यह है कि केवल एक परिवार है, जिन्होंने स्वयं लेने से इंकार किया है। वह मान नहीं रहे हैं कि हमारी मीसिंग है। बाकी सभी ने इमीडिएट रिलीफ ले ली है। हालांकि अभी भी कुछ बाँडीज़ आइडेन्टिफाई नहीं हो पाई हैं, करीब 10 ऐसे हैं, जिनकी बाँडीज़ अभी हैंडओवर नहीं हो पाई है। पुलिस इसकी कार्रवाई पूरी कर रही है और ओएनजीसी उसको असिस्ट कर रही है। इसका भी एक लीगल प्रोसेस है। हालांकि डीएनए के लिए उन्होंने कई बार सैम्पल ले लिया और इसके लिए ट्राई कर लिया है। अभी भी 10 ऐसे हैं, जिनकी आइडेन्टिटी एस्टैब्लिश न होने के कारण वे बाँडीज़ आइडेन्टिफाई नहीं हो पाई हैं, लेकिन जो इमीडिएट रिलीफ थी, वह उनको दी गई है”।

Elaborating further:

“मैं एक और बात बताना चाहता हूँ कि जितनी भी फैमिलीज़ आई, उनको यहाँ पर रहने की व्यवस्था की गई। उनको यहाँ पर 10-12 दिन रहना पड़ा। उन्होंने जो कुछ भी कहा, क्योंकि

गुजरात तक बाँडीज़ मिली थीं। वे 10-12 या जितने दिन भी रहें, उनका अर्रेंजमेंट किया गया। Even if they were not our direct employees, परंतु सभी का अर्रेंजमेंट ओएनजीसी ने ही किया। जिन्होंने कहा कि फैमिली अपने घर ले जाना चाहती है, जो लोग जहाँ से बिलाँग करते थे, उनको वहाँ पहुँचाया गया through a specific agency so that the last rites can happen. जिन्होंने वहाँ ऑप्ट किया, उनको वहाँ दिया”।

1.142 The Committee drew attention towards the facts that many of the BNVs belonged to the different organizations, the representative of the MoPNG further informed that:

“....जो 188 लोग थे, उनको फौरी राहत के रूप में एक लाख रुपया ओएनजीसी ने दी थी।... आदरणीय मंत्री महोदय एवं सचिव महोदय के साथ मीटिंग के बाद एफकॉन ने भी उनको एक-एक लाख रुपया दे दिया है।.... जहाँ तक डेथ सर्टिफिकेट वगैरह की बात थी, पिछली बार भी यह मुद्दा उठा था, क्योंकि इसमें काफी लंबी प्रोसेस हो सकता है।

उनको शीघ्र करने के लिए मंत्रालय ने यह ऑफर किया था और ओएनजीसी ने यह जिम्मेदारी ली थी कि यदि कहीं किसी भी डिस्ट्रिक्ट में उनको जरूरत पड़ती है, तो बतायें। जितना हो सकेगा, हम उसके हिसाब से इनफ्लुएंस करके या कुछ रिक्वैस्ट करके इसको करेंगे। अभी तक 51 लोगों का डेथ सर्टिफिकेट वगैरह तैयार हो गया है। वे उस पर कार्रवाई कर रहे हैं। पाँच लाख रुपए एफकॉन ने भी, हर फैमिली जिसके यहां कोई मृत्यु हुई है, उसको ये दे दिए हैं। यह फौरी राहत है, यह एंटरिम है। I am going to the next detail कि टोटल उनको क्या मिलेगा? उन्होंने 66 लोगों को दिया है। जहां तक इसमें टोटल कंपंसेशन की बात है, इनको तीन भागों में विभक्त किया जा सकता है। ये 66 लोग एक हैं, जो एफकॉन और एफकॉन के इंप्लॉईज़ के कांट्रैक्टर्स के साथ थे और जो दो शिप्स थे, उन शिप्स के डायरेक्ट इंप्लॉई थे। चार लोग ओएनजीसी के थर्ड पार्टी कांट्रैक्टर थे, जैसे आईआरएस का एक आदमी था, सीईआईएल के दो आदमी थे और एक आदमी ईआईएल का एक था। जहां तक ईआईएल, सीईआईएल वगैरह हैं, इनको सब कंपंसेशन उनकी कंसर्न्ड कंपनीज़ दे रही हैं, ये पब्लिक सेक्टर कंपनीज़ है। इनको कंपंसेशन प्राप्त हो रहा है। 66 लोगों को एफकॉन कंपंसेशन दे रहा है। ऐसा बताया गया था कि उसके हिसाब से उनका काम आगे बढ़ रहा है।

जहां तक जो पीएंडआई क्लब की बात है, तो इसमें जो क्लू थे, इसमें पी-305 का क्लू अलग इंश्योरेंस से कवर्ड था और बाराप्रदा का अलग इंश्योरेंस से कवर्ड था। जो पी-305 का है, इनका एक पीएंडआई क्लब है, जो शिप ऑनर्स का अपना एक क्लब होता है, वे उनको कंपंसेट करते हैं। It is a no-profit-no-loss organization. उनको लगभग 70 लाख से लेकर 1 करोड़ रुपये तक का कंपंसेशन मिलेगा। बाराप्रदा के केस में उन्होंने दूसरी एजेसी से उसका इंश्योरेंस कराया था। उनका कंपंसेशन करीब 15 हजार डॉलर है”।

1.143 The Committee sought to know about the primary contractor/owner of Barge P-305 and whether it has further sub-contracted to other contractors, the Ministry in its written reply submitted as under:

"M/s Afcons is the leader of Consortium who chartered the Barge PAPAA-305 (P-305) from its owner M/s Durmast Enterprises Limited, Trident Chamber, PO Box 1388, Victoria, Mahe, Seychelles to accommodate the work force deployed for execution and monitoring of LEWP project".

1.144 The Committee sought to know about the final compensation package being provided to the families of victims who died/missing in the incidents by LSTK Contractor/ONGC, the Ministry in its written reply submitted the following information:

"The status of died/missing personals in the incident is as follows:

Out of 86 BNV (Brave Nature Victims):

- 77 BNVs have been recovered and identified details of which are as follows: Afcons-7, Mathews-44, Vendors-2, Catering Crew (Sinai)-8, EIL-1, CEIL-1, IRS-1, Vessel crew of Papaa Shipping-5 and Vessel Crew of Varaprada (Glory Shipping)-8
- Out of 77 BNVs recovered and identified, Death Certificate has been issued to 76 BNVs. Death Certificate of remaining one BNV (Mr. Baljinder Singh) from M/s. Mathew Associates is pending and ONGC appointed undertaker M/s David is coordinating for the same.
- Details of 9 BNVs missing are as follows: Catering Crew (Sinai)-5, CEIL-1, and Crew of Varaprada (Glory Shipping)- 3.

The compensation provided to the families of victims of the incidents by ONGC/LSTK Contractor is as under:

1. **Compensation by ONGC (Total Rs. 360 lakhs)**

ONGC, on humanitarian grounds, has disbursed a relief and rehabilitation amount of Rs 2 lakh each to the nominees/ next kin of the deceased and missing person's family and Rs 1 lakh each to the 188 survivors.

2. **Compensation by M/s Afcons for 188 servivors(Total Rs. 188 lakhs)**

All 188 survivors have been paid an amount of Rs. 1.0 Lakh each.

3. **Compensation by M/s Afcons for 66 BNVs onboard Papaa-305**

- An Immediate relief of Rs 5 Lakh to each of the 66 BNV families has been paid by M/s Afcons.

a. **Through Workmen Compensation Commission (WCC) & ex-gratia by Afcons (Total eligible - 34).**

- A total amount of Rs. 4,21,99,625/- has been deposited with court under Employees Compensation for 29 Nos by M/s Afcons out of which Rs. 0.55 Cr has been paid out to 4 BNVs by WC commission.
- Bodies of Balance 5 BNVs are missing. WCC and Ex-gratia compensation for 5 missing persons of M/s Sinai yet to be done due to non-availability of Death certificates.
- Top up by M/s Afcons (WC cases): Ex-gratia amount of Rs. 2.29 Cr paid to 9 BNV families.
- Documentation (i.e. Legal Heir Certificate, family dispute, marital dispute etc.) is in process for compensation of both WCC and ex-gratia for other BNVs.

b. **Through Insurance Policies & ex-gratia by M/s Afcons (5 -Afcons, 1- Bousted, 1- Fugro)**

- For 05 Nos. of BNV's of M/s Afcons, approximate amount of Rs 0.92 crores have been paid through term life insurance.
- For 02 Nos. of BNV's of M/s Afcons, GPA (Group Personal Accident) of Rs 0.22 crores have also been paid.
- Ex-gratia amount of Rs. 0.88 Cr paid to 2 BNV families of M/s Afcons.
- For release of payment towards ex-gratia & GPA amount for balance BNV families of Afcons, documents are awaited/family denied.
- Ex-gratia amount is pending for 1 BNV family of Fugro due to Non-acceptance of compensation agreement by Fugro and for 1 BNV family of Boustead due to family dispute between Daughter in law and Father-in-law.

c. **Through ESIC Pay & ex-gratia by M/s Afcons (Total Eligible -25)**

- Out of total 25 eligible, 12 have been approved by ESIC and monthly payment ranging from Rs 3348/- to 23188/- has started for 11 BNVs. Request has been forwarded to ESIC, HQ, Delhi for approval of ESIC for 13 BNVs.
- Ex gratia amount of Rs. 1.49 Cr is paid to 9 BNV families by Afcons.
- Documentation (i.e. Legal Heir Certificate, family dispute, marital dispute etc.) is in process for release of ex gratia pay out for other BNVs

d. **Educational Assistance for children of BNVs by Afcons:**

- Full payment for 1st academic year completed. Mechanism for uninterrupted and assured payments in the long run (for upcoming years) is under exploration and shall be soon finalized by M/s Afcons.
- Scheme for financial Support for education of the 77 children of BNVs up to graduation (3 & 4 year courses) implemented. A total amount of Rs. 9.67 Lacs for the academic year 2021-2022 released to eligible beneficiaries.

4. **Marine Crew of Papaa-305 (Total 5 BNVs):**

- Compensation paid to all five families by P&I Club (Ship Owners Mutual) through Phoenix Legal
- Three families got Rs. 1,08,64,236/- each, One family got Rs. 77,60,084/- and one family got Rs 93,12,160/- (Total Rs. 4.967 Crore paid).

5. **Employee Compensation to EIL (1), IRS (1) & CEIL (2) by respective Employer**

- **EIL (Consultant)**(Late Mr. Aanant Carpenter): Compensation under GPAI (Group Personal Accident Insurance)–deposited (approx. Rs. 1.03 Cr.). Gratuity, Salary & Leave settlement, EDLI, Compensation under Welfare society and PF have been deposited. Pension under Defined Contribution Superannuation Pension Scheme–under process.
- **IRS (Third Party Inspection Agency)**(Late Mr. Sachindra Prasad): compensation Amount of Rs. 10 lakh has been provided by IRS.
- CEIL compensation (Certification Agency)

Late Mr. Arjun M. T: Compensation given is Rs. 25,53,050/- inclusive of Insurance Claim, Provident Fund & EDLI (Employees Deposit Linked Insurance) scheme amount as applicable, to be paid by EPFO office directly to dependent.

Mr. Saurav Jain: He is still missing. At present, CEIL is giving the adhoc amount Rs. 50,000/- Per month to his family.

6. Marine Crew of Varaprada (Total 11 BNVs):

- As per the agreement reached between Indian ship owners and trade unions, ship owners are liable to pay compensation to families of amounting to 110 months wages with a minimum of INR 22 Lakh for Non-officers and Rs. 34 Lakh for Officers, in case of death
- Out of 11 BNVs
 - Families of five BNVs have been paid fully (Rs. 22 lakh each) by vessel owner and P&I compensation both.
 - Families of Six BNVs have been paid partially:
 - ✓ Two families got Rs. 19,31,375/- each – for balance payment signing of agreement is in process.
 - ✓ Two families got Rs. 9,31,375 – for balance payment, in one case signing of agreement is awaited and the other case is under litigation.
 - ✓ One family got Rs. 8 lakh – for balance payment legal heir certificate is awaited
 - ✓ One family is yet to be paid (case is under litigation)".

1.145 The Committee sought to know as to whether ONGC has any plans regarding the welfare of brave nature victim's families as part of the Barge P 305, the Ministry in its written reply submitted the following information:

"As an immediate relief to the families of affected persons on the Barge P 305 and Tugboat Varaprada, ONGC had granted payment of Rs. 2 Lakhs to next of kin of each BNV (86) and Rs. 1 Lakh to all the survivors (188). As on 17.07.2021, all the cheques have been delivered except one cheque that was not accepted by the family members. The responsibility of ensuring education of children of BNV's is an issue to be decided by their respective employer.

A nodal officer was assigned from ONGC for families of each BNV (Brave, Nature's Victims), who was responsible for facilitating their logistics, boarding, lodging,

counselling, interaction with police authorities, transportation of mortal remains to respective home station and any local support required.

All necessary support as mentioned below was promptly extended to the family of BNV: -

- To and fro transportation arranged for family members of BNVs. (106 air tickets arranged, Train tickets /Road fare provided in other cases)
- Hotel accommodation for family members was provided wherever request was received.
- Vehicles/ reimbursement for taxi fare was provided to family members for movement within Mumbai for body identification purposes.
- ONGC facilitated the handing over of 54 bodies with end-to-end Ambulance arranged for transportation of bodies to native places.
- RTPCR tests were arranged by ONGC for facilitating smooth travel for family members.
- A dedicated helpdesk was set-up by ONGC at J.J. Hospital for prompt support to families of BNVs”.

1.146 The Committee wanted to know as to whether all the bodies of brave nature victims been recovered and identification of the remaining eight people been established by matching the DNA with family members, also, by when, this identification is expected to be completed, the Ministry in its written reply submitted as under:

“There were a total 86 Brave Nature Victims (BNVs).
So far 76 bodies were identified and handed over to the respective families.
For the remaining 10 unidentified BNVs, only 9 families of BNVs have given samples for testing.
DNA samples have been collected from the family members twice, so far match making of DNA samples with bodies have remained inconclusive.
Lately Mumbai Police has collected DNA sample afresh by visiting the family members at their stations. The results of these sampling are still awaited”.

1.147 On being enquired about the mechanism established so that the compensation for brave nature victims is expedited at the earliest, the Ministry in its written reply submitted as under:

“ONGC issued press release on 21.05.2021 and conveyed its decision to extend an immediate relief of Rs. 1 lakh to the survivors and Rs. 2 lakhs for the Brave Nature’s Victims (BNVs) and missing persons’ families. In view of this, ONGC disbursed grant of ex-gratia payment amounting to Rs 2 lakhs to the next of kin of each of 85 brave natures victims/deceased and Rs 1 lakh to each of 188 survivors. However, one cheque of Rs. 2 lakhs was not accepted by next of kin/nominee of M/s CEIL.

ONGC is continuously following with M/s Afcons / barge owner for expediting the compensation for brave nature victims. Two Nodal Officers from ONGC and other

employers have been identified for setting up communication and follow up with M/s Afcons and other employers regarding early disbursement of compensation to BNVs".

1.148 The Committee sought to know about the problems being faced by ONGC in ensuring Afcons pays compensation to the victims and whether ONGC is planning to cover all its employees under group insurance schemes on the lines of public liability insurance scheme in the event of any mishap, the Ministry in its written reply submitted as under:

"ONGC has been following up with M/s Afcons regularly for ensuring early disbursement of compensation. ONGC has extended services of its officers at Mumbai to M/s Afcons to facilitate in early settlement of compensation to dependents of BNV's. Meetings have been held with M/s Afcons to understand the bottleneck and limitations being faced by them in making early payments. M/s Afcons has expressed following limitations:

- 1) 13 ESIC cases have been sent for approval of Ministry of Labour and Welfare, approval is awaited.
- 2) 21 cases for workmen compensation referred in Mumbai and Thane Court and matter is subjudice.
- 3) 12 Death Certificates are still to be issued by BMC, the same is being followed up by respective employer.

ONGC has requested M/s Afcons to forward the reference No. and details of the cases awaiting approval from Ministry, awaiting Orders from Courts for follow up. ONGC is making efforts for obtaining death certificates for 12 cases as requested by M/s Afcons. It is expected that these death certificates would be issued shortly.

The information about compensation to be paid to each BNV's dependents has not yet been provided by M/s Afcons".

1.149 On being enquired about the modalities and mechanisms that have been evolved for instant relief and a comprehensive relief for brave nature victims and the statutory obligation of private contractors like Afcons in case of such incidents, the Ministry in its written reply submitted the following information:

"As per the contract clause no. 7.3.2, the Contractor shall take out and keep in force adequate Insurance to cover all risks. (a) In respect of their personnel deputed to work under the Contract. (b) In respect of their own as well as hired equipment (to the extent of their insurance interest) tools, materials, marine spreads, vessels, barges, crafts, ships and operational facilities used during the entire period of their engagement in connection with the Contract to the insurable value of such constructional plant, equipment and other things. Company shall have no liability whatsoever in this regard.

Afcons has assured to provide financial assistance up to completion of education of graduation (3 and 4 year courses) for the children of the BNVs. A total of 78 children have been identified. Further modalities are being finalized”.

Security aspects of Petroleum & Natural Gas Industry in the Country

1.150 As such being a technical directorate under the Ministry of Petroleum & Natural Gas, the main function of Oil Industry Safety Directorate (OISD), set up through a resolution by Government of India in 1986, is to oversee the safety in entire Oil & Gas Industry in India. The security related issues of the sector are not under the jurisdiction of this Directorate, and are monitored by Ministry of Home Affairs. MHA/ IB conducts periodic security audit of such Installations and recommendations of the same are implemented by the entity concerned.

Security of Onshore Oil & Gas Installations including Pipelines Installations

1.151 Security for on-shore installations is provided by the owner oil companies with the help of their own security staff and by the Central Industrial Security Force (CISF) personnel who guard the installations and undertake necessary patrolling. Remote surveillance systems are also used for monitoring security of sensitive installations.

All the Petroleum Industry Installations in the country are protected by an Industry type boundary wall of at least 3 Meter height including 0.6 Meters of Concertina Coil at the top in compliance with the MHA guidelines.

Ground/Aerial patrolling along the Right of Way (RoW) of the Hydrocarbon pipelines (Liquid as well as Gas Pipelines) is mandated in relevant OISD standards. Also, at least once a year company officials are also required to undertake a line walk as per the provisions stipulated in OISD standards.

Security of Offshore Oil & Gas Installations

1.152 For safety related aspects in offshore operations, the Petroleum and Natural Gas (Safety in Offshore Operations) Rules, 2008 are in force since June, 2008.

For security of offshore installations, Vessel and Air Traffic Management System (VATMS) is being used to continuously monitor any unauthorized vessel approaching /operating in the offshore, besides regular air & sea surveillance by the Navy/ Coast Guard.

500 Meters Zone around the offshore installations is designated as the safety zone, primarily to control movement of vessels around the installation to avoid collision.

Safety and security of the Oil & Gas installations is of paramount importance; and concerted efforts are being made by the Industry and the Ministry to safeguard such national assets. For ensuring supply of energy at affordable prices to every nook and corners of this vast country on round the clock basis, all efforts are being put on safety aspects of these installations.

OISD and Petroleum Ministry remain committed to ensure that the vital oil installations that provide energy security to the Nation and its safety are given highest priority and focused attention that it deserves.

Security of Oil Installations at ONGC

1.153 ONGC, an upstream Oil Company, operates both in Onshore and Offshore. Installations of ONGC are Vital Installations and have been categorised as A, B, C and D, by the IB / MHA on a point based criteria. All these installations of ONGC are periodically security audited by IB / MHA as per the laid down norms. Besides, every two years, Internal Audits of these installations is carried out by a Team of Senior ONGC Security Officers. In addition, ONGC Security Officers carry out Annual Audit of all installations to adjudge the Best Security Unit in Operational and Non-Operational Categories. Recommendations made in all such audits are compiled, deliberated and complied within a time bound manner. The existing security arrangements of the ONGC installations are reviewed regularly by Chief Security, ONGC at Corporate Level.

1. Security arrangements - Onshore:

- a) ONGC installations located in the Onshore are being secured by the Security/ Police contingents' viz., CISF, State Armed Police, Home Guards, Departmental Security, besides contractual security guards depending on the sensitivity of the Installations / Work Centres. In four States, viz, Assam, Andhra Pradesh, Tripura and Gujarat, ONGC has signed MoUs with the State governments for deployment of State Armed Police of the respective States, namely Assam Armed Police Bn. (AAP Bn. in Assam), Andhra Pradesh Special Protection Force (APSPF in Andhra Pradesh), Tripura State Rifles (TSR in Tripura) and State Reserve Police Force (SRPF in Gujarat) for the protection of ONGC's establishments, operations, personnel & assets. Besides, a contingent of Maharashtra Security Force/MSF (Maharashtra State Security

Corporation/MSSC) personnel is deployed in the Work Centres of Mumbai Region. These Security forces are supervised by ONGC's Departmental Security personnel.

- b) MHA/IB conducts periodic security audit of the ONGC Installations and its recommendations are implemented by ONGC. In addition, ONGC's Senior Security executives are sent periodically to the important installations for internal review of the existing Security setup and their security recommendations are also implemented. Besides, the existing security arrangements of the ONGC establishments are also reviewed regularly by the Chief Security, ONGC. Security Issues of Onshore Installations are deliberated bi-annually in the respective Onshore Security Coordination Committees (OSCCs), formed on the suggestion of the MHA by MoP&NG under the Chairmanship of Director General of Police of the State concerned. OSCCs deliberate on Security issues and formulate mitigation plans in the Onshore Installations / Work Centers keeping in view the inputs regarding threat and locational Vulnerability State wise. As on date, OSCCs exist in all States of the Country and ONGC holds convenorship for 14 states (Andhra Pradesh, Assam, Delhi, Gujarat, Goa, Jharkhand, Karnataka, Maharashtra, Nagaland, Rajasthan, Tamil Nadu, Tripura, Uttarakhand and West Bengal). Senior police officers who are heading the L&O, Crime, Intelligence, besides Zones / Range IG/DIGs, District Administration/SPs, Rep. of MHA / IB and the Oil companies, including ONGC are the members of these OSCCs.
- c) Further, in the Onshore, District Level Coordination Committees exists, wherein, the quarterly meetings with Zone / Range IG / DIGs are held. Similarly, cases of oil thefts are reviewed regularly and corrective measures taken to curb the same. Frequent meetings are held with the District Revenue & Police authorities for improving coordination & cooperation besides police action in cases of theft & pilferage.
- d) To identify the lacunae and to gauge the level of preparedness, periodic Mock drills are held in the different ONGC Work Centers / Installations involving the security forces and police (CISF, State/Local Police) on various Scenarios. This also helps in updating the contingencies plan. Further, post 26/11, NSG has also conducted its mock drill in the hypersensitive Installations of ONGC for terrorists related and hostage situation mitigation strategies, thereof etc.
- e) In order to capitalize on the Technological Advancements and to have standard security gadgets in the Installations of ONGC to augment the physical security needs, around 28 security gadgets have been standardized and put in place across Installations. This is also in line with the Oil Sector Infrastructure Protection Plan (OSIPP) and further augments the security arrangements, security gadgets and security procedures in ONGC Onshore Installations. It may be mentioned that the Oil Sector Infrastructure Protection Plan (OSIPP) has benchmarked the minimum physical security standards, Technological and IT security standards, standardization of Security equipment and state-of-the-art technology to incorporate the best practices taking into consideration the various threats and the security and safety requirements of the ONGC Installations, which is under implementation. In pursuance of the OSIPP and to strengthen the prevailing security system, ONGC is in the process of implementing Enterprise Wide Access Control System (EACS) across its 331 Onshore Installations. The EACS under implementation through M/s BEL at an approximate cost of Rs. 400 plus Crores will cover all aspects of security, including physical security, access control and anti-sabotage measures as well as credible responsive mechanism to meet any eventuality including authorized/ authenticate access control

in the ONGC installations by the ONGC employees and Non-employees / contractual personnel.

- f) All Work Centres had carried out a detailed Survey of Trunk Pipeline and based on the history / data/ number of incidents and modality of puncturing, vulnerable areas were identified. In addition, Line-Walker System of pipeline patrolling was instituted to cover the vulnerable areas and to detect and report any tampering / unusual activities. Besides, the existing Trunk Pipeline (TPL) Patrolling System has been further strengthened at Asset level, resulting in increase in detection of cases.
- g) An effective intelligence network is in place at all the Work Centres and the dedicated intelligence cells were also constituted for this purpose.
- h) Mobile patrolling of oil fields by departmental security officials and joint patrolling along with the state police personnel is being done to maintain extra vigil in the Oil field / installations at strategic / vulnerable areas. Besides, vulnerable areas and roads have been identified in consultation with the jurisdictional police authorities for conducting mobile nakabandi by joint team of local police and ONGC security personnel to check for any unauthorized movements of crude oil tankers. Similarly, with the help of civil administration, movements of tankers from dusk-to-dawn in the oil field areas have been regulated in terrorist and insurgency prone/affected districts.
- i) In order to sensitize the local population about the serious environmental, safety and fire hazards involved in the theft and pilferage of crude oil, periodic sensitization programs are organized in the nearby villages for the benefit of the local population.
- j) In order to motivate the security personnel and jurisdictional police to ensure prevention and detection of theft / attempted theft / pilferage and illegal transportation of crude, Best Unit with Cash Award, Commendation certificates and rewards are sanctioned for the police officers, who make outstanding contributions in this field.
- k) The deployment and functioning of Security personnel along the pipelines and at the installations, the latest intelligence inputs, and various preventive measures are constantly reviewed periodically and security apparatus is upgraded, wherever required.
- l) With the help of police, special sensitization programs are organized for the villagers residing around the oil fields in Gujarat as also among the scrap-dealers / Brick Kilns, who may be potentially targeted by anti-national, criminal elements for help in the theft & pilferages of crude / metal parts from ONGC oil wells / establishments.
- m) With the help of MHA/ Intelligence Bureau and on the direction of MoP&NG, Special Sensitization Programs are organized for the senior/ middle-level executives of ONGC, from time to time. In addition, sensitization programme and security awareness workshops are organized by eminent domain experts for the benefit of ONGCians at Work Centres during Security Awareness Week, annually. Due to the ongoing pandemic situation, sensitization programs are being conducted through online/video conferencing mode.
- n) Investigation of all cases of theft and pilferage are being followed up. With the help of the police, attempts are being made to expose the masterminds behind such crimes and also to prosecute the end-users and the receivers of such stolen crude oil.
- o) Oil tankers are equipped with Global Positioning System (GPS) at Assam, Ahmedabad, Ankleshwar, Mehsana Asset, Hazira Plant and Rajahmundry. Besides, to contain the theft and pilferage of High Value chemicals in transit, Assam Asset has introduced specially designed chemical container, which are equipped with Digital locks and VTS supported GPS, resulting in comprehensive security and safety in

Chemical Transportation. Process is being initiated for digital tanker locking system in Oil tankers, across the work centres. Ahmedabad and Mehsana Assets have already introduced GPS system to monitor the movement of Line walkers on our Trunk Pipelines.

- p) Efforts are on to further upgrade the effective pipeline monitoring system through technological solution for detecting any third party intrusion on the pipelines.
- q) Annual Security Conferences and Annual Security Review meetings are held with all the Heads / In-charges of security, wherein the incidents of theft, pilferage and security lapses are reviewed and more effective means to prevent such incidents are devised and put into practice. The involvement of executives and staff members of ONGC security in all work centres in the above effort has also contributed to higher levels of detection of theft cases. All cases of theft/ attempted theft/ pilferage of crude oil are promptly reported to the jurisdictional police. ONGC Security is also monitoring investigation of such cases through regular liaison with the police stations concerned and the courts.
- r) For skills-set upgradation and knowledge enhancement, periodic training programmes on Security management are being held by in-house faculties and outside specialized agencies like IB, etc.
- s) For fast communication and prompt action, walkie-talkie sets, landlines phones etc., are available. An all India Toll Free 24 x 7 Helpline Number has been installed.
- t) To prevent the spread of Covid-19, Team Security ONGC is strictly complying with the guidelines/protocol of Covid-19 issued by the Government of India and Top-Management of ONGC from time to time, in letter and spirit. Safe and unhindered operations are being ensured through continuous liaison and coordination. Use of thermal scanners, sanitizers and allowing of entry to employees wearing mask is being ensured at all entry points of ONGC premises.

2. Security arrangements - Offshore:

- a) The security issues of Offshore are deliberated bi-annually in the Offshore Security Coordination Committee (OSCC) Meetings, formed on the suggestion of the MHA by MoP&NG under the Chairmanship of Director General Indian Coast Guard. OSCC deliberates on Security issues and formulates mitigation plans for Offshore Installations / Work Centers keeping in view the inputs regarding threat and locational Vulnerability State wise.
- b) Further, Headquarters, Offshore Defence Advisory Group (HQODAG) was constituted on December 31, 1983 to plan and advise Naval Staff and ONGC on security arrangements in the offshore regions. It functions as the nodal agency for all interaction with ONGC and other oil Exploration & Production (E&P) companies in matters relating to defence of offshore installations within the Maritime zones of India. The organization is headed by Flag officer Defence Advisory Group (FODAG), who was later re-designated as "FODAG and Advisor Offshore Security and Defence to the Government of India" on 25 Jun 02.

Functions/Role of FODAG:

The primary functions of FODAG include the following:-

- To advise the GoI including the Ministries of Defence, Petroleum & Natural Gas and Shipping and Civil Aviation through the Chief of the Naval Staff on all planning and policy aspects of offshore security and defence covering territorial waters, the Continental Shelf, the Exclusive Economic Zone and other Maritime Zones of India as defined in the MZI Act 1981. These aspects include:-
 - Coordination of the functioning of offshore security arrangements.
 - Identification of various threats to offshore installations and terminals.
 - Identification and defining of military threats in situations short of war.
 - Examination and proposing of appropriate security measures in respect of all entities engaged in offshore exploration and other measures necessary for the security of offshore installations and terminals.
- To exercise command and control over mobile forces and static defences in the defence of offshore installations, as directed by the respective Commander-in-Chiefs.
- To monitor mercantile traffic for transit through recommended routes/ fairways in the vicinity of offshore areas, in coordination with the concerned civil authorities.
- To inspect vessels engaged in offshore work, prior to their being deployed, for the purpose of ascertaining compliance with the security clearance accorded by competent authority.
- FODAG is also the member of Offshore Security Co-ordination Committee (OSCC), which manages offshore security. He is also the chairman of the Joint Venture Offshore Protection Advisory Committee (JVOPAC) which is a Sub Committee of the OSCC and a forum to facilitate the exchange of security and offshore issues between the OSCC and the offshore JV/ private oil companies, as Joint Venture/ private companies do not have representation in OSCC.

Security mechanism for Offshore Installations of ONGC in brief:

- a) **Security Clearances or Passive Measures:** All ships/vessels that operate in the ODA region are cleared by the Indian Navy, and clearance of all expatriate crew members is done by the MHA, besides, police verification is obtained i.r.o Indian crew. They carry out constant monitoring of shipping traffic.
- b) **Declaration of Designated Area:** Ministry of External Affairs (MEA) had issued notifications declaring 500 Meters area around all Platforms/Structures as Designated Area and prohibited the entry of all Ships/ Vessels except the vessels of ONGC, Indian Navy and Indian Coast Guard or those vessels that have been given Naval Security Clearance (NSC) for operational purpose by the Indian Navy / MoD.
- c) **Responsibility:** The Indian Navy is responsible for Security and Defence of all offshore facilities. MAO, Indian Air Force is responsible for Air defence of offshore. However, there is a dedicated group of Indian Navy i.e. Offshore Defence Advisory Group (ODAG) headed by FODAG for advising ONGC and other operators on Offshore Security of the Offshore Assets (ODAs) was constituted on December 31, 1983. Post Kargil War, FODAG has been additionally designated Advisor to GoI on Offshore Security.
- d) **Access Control:** Smart Card based identity cards for employees and other personnel are being used to enter offshore area through embarkation points. Identity cards to

secondary/ contractual personnel are issued after due police verification for Indians and MHA clearance for foreign nationals.

- e) **On-board Security:** Ex-Naval Sailors have been inducted as Marine Security Supervisors (MSS) and posted on each process complex for assisting OIM on security issues. CCTV and Binoculars have been provided on process complexes for monitoring movement of men and material.
- f) **Offshore Surveillance:** The surveillance of the offshore area is ensured by VATMS monitored by ODAG, HQ. Air surveillance in the form of air patrols by Indian Navy & Indian Coast Guard is also carried out on a regular basis.
- g) **Patrols by Navy/Coast Guard Ships:** The Oilfield Development Area (ODA) is regularly patrolled by the ships of Navy and Coast Guard. Besides, armed patrols in the immediate vicinity of offshore platforms with the hired patrol boats provided by ONGC is carried out by HQrs-ODAG personnel. Regular Mock Drill exercises are also carried out, wherein actual threats to the offshore region are simulated and the defence mechanism is rehearsed.
- h) **Air Patrols:** Extensive air patrols are also carried out to keep the offshore area under constant surveillance. In addition, Air Defence Exercises are also scheduled, wherein actual assets are deployed on various manned/unmanned platforms.
- i) **Commando Exercises:** Regular Commando exercises are held on the Process Complexes to familiarize the marine commandos with the layout and location of various Rigs/Platforms.
- j) **Safety Fairways:** DG Shipping promulgated Safety Fairways for safe navigation and safety of Platforms in ODA. Traffic Separation Schemes and Recommended Shipping Routes are also being processed by the Navy, to ensure safety of the offshore facilities against collision.
- k) **Monitoring of Security Management:** MoP&NG has constituted Offshore Security Coordination Committee (OSCC) under the chairmanship of DG Coast Guard for monitoring offshore security. Regional Contingency Committees (RCC) at Naval Commands in East, West and Andaman & Nicobar has been constituted as sub-committee of OSCC to deal with any safety or security contingencies.
- l) **Sensitization of Fishermen Community:** ONGC in association with Indian Coast Guard is making efforts to sensitize Fishermen community about the *Dos and Donts* while fishing in Oilfield Development Area.
- m) **Project under way:** In view of the continued Intelligence inputs to the Offshore Oil & Gas Installations and the corroborative inputs suggesting that Pakistan based terrorist outfits possess capability of underwater attacks, ONGC Management had decided to implement Comprehensive Security Solution (CSS) in Process Complexes in Offshore. Board approval has been accorded to the project and it is under various stages of implementation.

Cyber Security of Installations

1.154 When asked to provide a note on measures taken towards cyber security by ONGC to protect its installations and information system, the Ministry in its written reply submitted the following information:

"Some important measures taken towards cyber security by ONGC:

- ONGC has adopted an Information security policy which is in line with the cyber security policy of Government of India. Besides, it also complies with the International Information Security Standards viz. ISO 27001.
- For maintaining the global best practices in Information Security domain, ONGC has implemented Information Security Management System (ISMS) at its major data centres and for its sustenance, periodic internal and external ISO 27001 audits are carried out.
- For monitoring the organization wide Information Security alerts ONGC has implemented Information Security Operation Centre (ISOC).
- ONGC receives real time threat intelligence/alerts from the government agencies such as Indian Computer Emergency Response Team (CERT-In), Intelligence Bureau (IB), National Critical Information Infrastructure Protection Centre (NCIIPC) etc. Further the threat feeds from CERT-In has been integrated to ISOC by automating the feeds using the Trusted Automated Exchange of Intelligence Information (TAXII) standard, thereby improving the threat response time.
- ONGC has integrated its internet gateway's traffic, log monitoring of security devices with National Cyber Coordination Centre (NCCC) and for botnet monitoring integrated ONGC network with Cyber Swachhta Kendra (CSK) of CERT-In. Compliances to the observations made are regularly sent to the concerned agencies. Monthly meeting is held with CERT-In for gap analysis and security posture improvements.
- For employee awareness in Information Security domain, ONGC conducts variety of activities throughout the year viz. organising Information Security awareness talk by external domain experts, conduct of mock drills on phishing attack, issuance of advisories on Information Security, publishing e-Newsletter etc."

1.155 On being enquired as to whether any incidents of cyber-attacks happened during the last two years in any of its ONGC installations, the Ministry in its written reply submitted as under:

"No Cyber Security incident has been reported from any Production / Drilling installation of ONGC. But considering ONGC as a whole, including the offices, there were some cyber security incidents reported by the Ministry of Home Affairs. However, most of them were blocked at perimeter security level and only a few could make successful connections up to ONGC systems in its enterprise network. One such case is that of the Chinese threat actor 'Shadowpad' making connections into the ONGC network in two instances (May and December 2020). In both the cases, the external IPs making the connections were blocked immediately. Subsequent remedial actions were also taken as per the protocol and the systems were put for analysis. Notably, there was no breach of information. Significantly, no such incidents have been reported afterwards".

It was further informed that:

"जहां तक साइबर सेक्योरिटी की बात की गई है तो मैं अपनी कंपनी के बारे में कह सकता हूं कि हमारे यहां चीफ इंफार्मेशन सिक््योरिटी ऑफिसर हैं, जो एग्जीक्यूटिव डायरेक्टर लेबल के

अधिकारी होते हैं, उसकी रिपोर्टिंग डायरेक्टली डायरेक्टर को होती है। ये इंडिपेंडेंट होते हैं। हम राउंड द क्लॉक, जो भी साइबर अटैक्स होते हैं, हमारे यहां नॉक सेंटर होते हैं, जहां पर हम मॉनिटर करते रहते हैं कि कौन-से आई.पी एड्रेस से किसने, कब और कितनी बार साइबर अटैक किए हैं। इसकी जानकारी लगातार रिकार्ड होती है। उसकी रिपोर्ट बनती है और हमें प्रदान की जाती है। हमारे जितने आई.टी नेटवर्क हैं, सारे का इंस्पेक्शन एक थर्ड पार्टी से नियमित अंतराल पर और जहां भी जैसी आवश्यकता होती है, जैसे कोई सेक्योरिटी पैच, कोई सॉफ्टवेयर या कोई इक्विपेंट अपग्रेडेशन की बात होती है, वह हम करते रहते हैं। इसके अलावा, मिनिस्ट्री ऑफ होम अफेयर्स से इसका निरीक्षण होता है और जब-जब उनके सलाह आते हैं या जब भी ऐसा कोई अटैक होता है, उसकी इफॉर्मेशन उनके माध्यम से हमारे पास पहुंचता है। हम इसका पूरा ध्यान रखते हैं”।

1.156 When asked does ONGC ensure that its installations are well protected/secured from such cyber-attacks, the Ministry in its written reply submitted as under:

“ONGC Oil and Gas / Operational Technology network is segregated from the enterprise network and is not connected with the internet”.

1.157 On being enquired about the administrative and surveillance measures put in place to protect/secure the ONGC installations, the Ministry in its written reply submitted the following information:

“For surveillance in cyber security domain, ONGC has implemented ISOC having nine (9) different security tools namely:

- APTM (Advance Persistent Threat Management)
- End Point Security
- DLP (Data Loss/Leak Prevention)
- TVM (Threat and Vulnerability Management)
- PIM (Privileged Identity Management)
- SIC (System Integrity Controls)
- DAM (Database Activity Monitoring)
- IT-GRC (Governance, Risk and Compliance)
- SOAR (Security Orchestration Automation and Response)

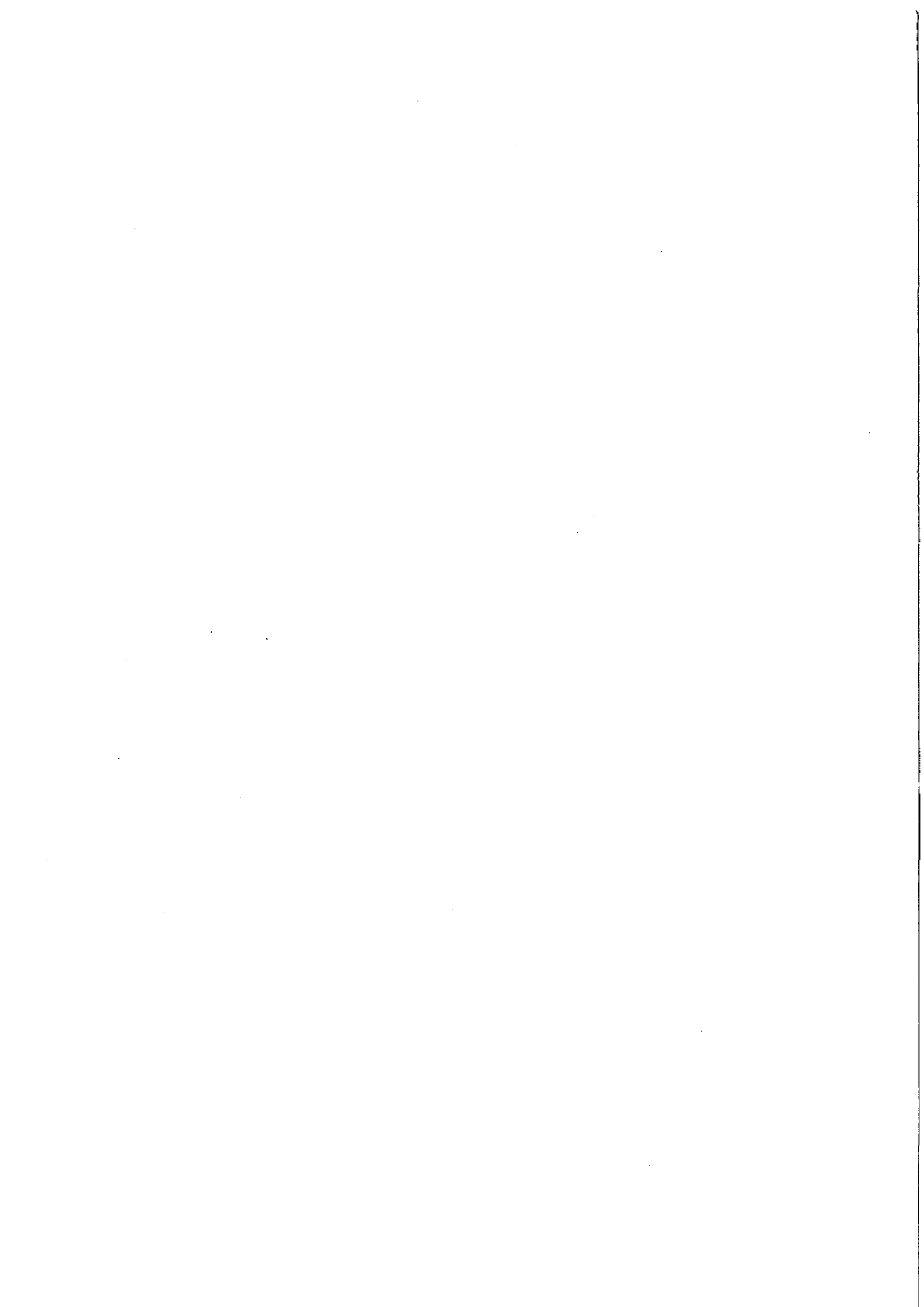
The above security tools are integrated with the Security Information and Event Management (SIEM), a software solution that aggregates and analyses activity from many different resources across the entire IT infrastructure of ONGC.

As far as administrative and surveillance measures w.r.t. Physical Security in Onshore Installations are concerned, an Enterprise Wide Access Control and Surveillance system has been implemented across 324 sites of ONGC.

The surveillance of the offshore area is ensured by Vessel and Air Traffic Management System (VATMS) monitored by ODAG (Offshore Defence Advisory Group); HQ. Air surveillance in the form of air patrols by Indian Navy & Indian Coast Guard is also carried out on a regular basis".

1.158 The Committee sought to know other information the Ministry would like to place before the Committee, the Ministry in its written reply submitted the following information:

"Deployment of Honey Net project under CERT-In to collect and analyse the cyber-attack data and effective dissemination of cyber threat intelligence in the form of visualization and dashboards as well as integration with specialised cyber security solutions is under process in ONGC".



PART - II**OBSERVATIONS / RECOMMENDATIONS****Recommendation No. 1****Need for periodic review of Safety Measures in Petroleum Sector**

The Committee note that the Indian Petroleum Sector has presence in upstream, midstream and downstream sector including onshore and offshore fields in the exploration and production sector, about twenty three refineries, several Gas processing plants, Liquefied Natural Gas (LNG) terminals, retail outlets, LPG agencies and godowns and more than 45,000 kms of pipelines transporting crude oil, petroleum products and gas spread across the length and breadth of the country. The Committee also note that several Acts and Rules govern the safety of oil and gas inflations and similarly several authorities under different Ministries of Central Government and state level authorities too enforce laws coming under their purview like fire department, lift and elevators inspectors etc.

The Committee note that the Oil and Natural Gas Industry handles highly inflammable hydro-carbons and processes them under high temperature and pressure. Any accident in Petroleum and Natural Gas Industry can cause serious outcomes like loss of lives, disruption of activities and huge destruction of economic value and also damage the local environment. Hence, the Committee observe that Safety in petroleum sector is of utmost importance.

The Committee note that many accidents happened in the Oil and Gas sector in the last several years including cyclone Tautkae, in May 2021, where Barge P-305 broke and sank in which 86 lives were lost, in 2020 there was a oilwell blowout of Oil India Limited in Baghjan, Assam and GAIL pipeline blast at Andhra Pradesh in 2014 and Jaipur incident of IOCL in 2009, etc. are some of the serious incidents in the petroleum industry in the country.

The Committee had examined the events leading to and handling of Cyclone Tautkae and its aftermath by ONGC in which 86 people had lost their lives. The Committee had noted with concern that there has been several gaps in legislation, lack of enforcement of the existing regulations and also lack of accountability among the

various authorities. Considering that the Ministry of PNG is encouraging private investments in the petroleum sector and several private companies have entered into the field in the Exploration and Production space and in the City Gas Distribution (CGD) network, LNG terminals, etc., the Committee opine that the Ministry and PSUs and safety regulatory agencies should be pro-active and review the safety measures in place from time to time and identify deficiencies and not wait for any disaster to happen to review the safety measures.

The Committee desire that the Ministry should undertake a comprehensive review of the safety requirements for the entire oil and gas industry and the responses required in any eventuality by the companies concerned. The Committee would expect the Ministry to take into account the latest technology developments and incorporating the same for surveillance and response management and also look into the gaps in laws and also accountability of various organisations. The Committee, therefore, recommend that the Ministry should constitute a Working Group comprising of industry professionals, legal experts, academics, etc. to look into the whole gamut of safety framework and suggest necessary changes for petroleum sector in the country.

Recommendation No. 2

Fixing of accountability in ONGC

The Committee note that ONGC had received first weather advisories and bulletins about the Cyclone Tauktae from its forecasting agency M/s. Skymet on 12th and 14th of May 2021. The officials of ONGC had conveyed these advisories to their contractors in the offshore over radio communication and advised them to move to safe locations in view of the cyclone. The Committee were informed that ONGC e-mailed weather advisory from Maritime Rescue Coordination Centre (MRCC) to all the offshore contractors and rigs and a Control Room had started on 13th May. All rig owners were asked to go on cyclone survival mode on 15th May, 2021.

The Committee note that the Executive Committee (EC) which is highest body in ONGC activated Corporate Disaster Management Plan in its special meeting on 16th May for rescue operations. The Committee were also informed that ONGC had informed Maritime Rescue Coordination Centre (MRCC) and head of Offshore Defence Advisory Group (ODAG) as per regional contingency plan and further immediately

diverted all its Multi Support Vessels (MSVs/OSVs) present in the field towards the barge and informed the Indian Navy, which directed INS Kochi reaching P-305 location at 15:30 hours but could not undertake any immediate rescue measures due to inclement weather. The Barge P-305 which is a non propelled Barge type was particularly vulnerable and needed a tug handling boat for its movement to a safer location. In the morning of May 17, 2021, the Barge P-305 reported that it had lost all anchors and hit the wellhead platform HC.

The Committee are not convinced of the reply of the ONGC and its failure to manage and its preparedness to face Cyclone Tauktae and its aftermath. The Committee note that ONGC had information about the cyclone as early as 12th of May and the actual cyclone had hit on 16th night/17th morning. The Committee are of the opinion that having been present in the western offshore for last several decades ONGC had the experience of handling several cyclones in the past and the argument that cyclone has changed its direction does not hold much ground as ONGC should have factored that change of direction in the path of cyclone and should have prepared a contingency plan to handle it. This clearly exposes the serious lack of systems, processes and response management system of ONGC.

The Committee further note that no senior official of ONGC at the corporate level had taken charge of the situation to guide the teams at Western Offshore. The Committee view this seriously as accountability goes on with authority and would like to recommend to the Ministry that it should conduct thorough investigation about the responsibility of ONGC officials at various levels in this incident and take strict action against all those who are found negligent of duty.

Recommendation No. 3

Weather Forecasting Services

The Committee note that ONGC has been present in Western Offshore area for more than 5 decades engaged in exploration and production work. ONGC had awarded the contract for providing offshore weather forecast on a day to day basis to M/s Skymet Pvt. Ltd. through open tendering process in 2010. The Committee note that M/s Skymet renders weather forecasting services and provides location specific weather forecast three times a day for areas specific to ONGC operations on Western

and Eastern Offshore. M/s Skymet takes as input the satellite pictures of Indian Meteorological Department for weather forecasting model and it also runs weather research and forecast model in collaboration with National Centre for Education Technology, USA. ONGC has also informed the Committee that M/s Skymet had issued advisories both in the east and west coast in India ever since they have been engaged by ONGC and so far no deviation have been observed about their predictions.

The Committee note that the Indian Meteorological Department under the Ministry of Earth Sciences is the government agency in the country in all matters relating to meteorology and allied subjects. IMD is the nodal agency to provide weather forecasting and cyclone warnings in Bay of Bengal (BoB) and Arabian Sea (AS) region for the country and also the regional centre to provide advisories under Global Maritime Distress Safety Systems. The Committee have also noted that until 2010 ONGC was being provided weather forecast and warnings by IMD three times a day regularly for Mumbai, Godavari/Krishna, Cauvery basins and other fields and special weather forecast at the time of formation of depression/cyclone in the sea around the clock. However, the services of IMD are not directly catered to ONGC since 2010.

However, the Committee are not convinced about the arguments put forth by ONGC in engaging Skymet for its weather forecasting system and field specific locations forecast or bulletins and are unclear for the reasons behind ONGC's decision to go for global tendering process to select the service provider which eliminated IMD from participation being a government agency. The Committee also been informed that globally the national agencies are having a major role in weather forecasting as it has larger impact on the population of the country. The Committee deplore the decision of ONGC to stop receiving weather advisories and forecast from IMD since 2010 and select M/s Skymet through a global tender. It is very unfortunate that while IMD has claimed that its forecast about Cyclone Tautkae was very much as per the path of cyclone whereas ONGC had claimed that the final direction and wind speeds / wave heights experienced advisories received by from M/s Skymet were not as per the prediction. The Committee observe that the eye of the cyclone tautkae passed through the ONGC's installations whereas the early forecast was far away from them. Being a premier organisation, ONGC should also collect global inputs on weather forecasts on a regular basis so that it has a forewarning and time to plan for events like cyclones or

storms in its area of operations. The Committee conclude that the decision of ONGC to engage a private company to give weather forecasting services since 2010 was a poor decision and recommend that Ministry should enquire into the reasons behind selection of M/s Skymet for its weather forecasting services.

Recommendation No. 4

Vacancies in Senior Levels in ONGC

The Committee note that board level posts of Chairman and Managing Director (CMD) fell vacant with effect from 01.04.2021 and Director (offshore) with effect from 01.05.2021. Public Enterprises Selection Board (PESB) conducted selection meeting for the post of CMD, ONGC on 04.06.2021 and did not recommended any candidate keeping in view the strategic importance and vision for the company and its future.

The Committee note that interview for Director has been conducted names have been recommended because it is selected by PESB. When a post starts becoming vacant, they start the process long before that, but PESB takes it forward. For the post of Director (offshore), the incumbent has been recommended by PESB and appointment will be made after approval of Appointments Committee of the Cabinet (ACC). The recommendation has been made for this and now he will be appointed after vigilance clearance etc. Similarly, the Committee were informed that interview was also conducted for CMD, ONGC. But PESB has decided that its search should be wide, and there is a system to form a search committee due to which it is taking a little more time.

The Committee note that ONGC being the country's largest and important domestic crude oil production company should be managed well as long term policies and programmes determine the success and outcome of the company and its performance. ONGC has large budgets and carry out many important projects in the oil and gas sector. While the Committee appreciate the need for carrying out wider search for the post of CMD, ONGC, the delay in the procedures to select a person cause avoidable indecisiveness in the decision making of the organization. The Committee note that resorting to temporary appointment to the post of CMD with senior officials holding the posts will not provide sufficient authority to perform the functions in full zeal and enthusiasm. The Committee feel the absence of regular CMD in ONGC could

also be a factor in handling the Cyclone Tauktae incident in a non-serious manner. The Committee, therefore, recommends that the Ministry should attach utmost seriousness to the filling up of vacancies in oil PSUs in general and particularly ONGC in this case take advance action to complete the exercise well before the incumbent completes the tenure.

Recommendation No. 5

Need for Legislations for Offshore Vessels

The Committee notes that Shipping is an international industry and one of the most diverse industries of the world and regulations need to be consistent across all jurisdiction for seamless movement of trade with the shipping industry being responsible for the carriage and transportation of most of the world trade. Under the auspices of the International Maritime Organization (IMO), International Conventions have been agreed which set out uniform requirements in order to facilitate the acceptance of a ship registered in one country in the waters and ports of another and in the general furtherance of safety at sea and the protection of the environment.

The Committee further notes that all vessels, including the ones operating on the Coast of India or Indian Oil Fields need to have valid applicable certificates to ensure compliance with the respective Convention requirements. Flag State of the vessel or its Recognized Organization (RO), issues Certificate(s) once compliance with the applicable Convention requirements are verified. Thereafter, it is the responsibility of the Owner, Master and Crew to ensure that conditions in which certificate(s) are not changed and that the vessel remains in seaworthiness condition.

The Committee notes that in the case of non-propelled vessels (example Barges), they are registered under a very old legislation, enacted during the British-era i.e., Coasting Vessels Act, 1838. It may be noted that, this act contains provision for registration only and does not empower the Maritime Administration to provide rules and regulations for the safety, security and pollution prevention aspects therein. The Committee were surprised that Barge P-305 which accommodates 300 persons need only registration and Indian Maritime Authorities has no rules and regulations for ensuring its safety aspects. The Committee are shocked and very disappointed that

such gaps in legislation and powers to provide rules and regulations have been continuing for a long time of more than four decades while ONGC have been engaging contractors for E&P activities.

It is unfortunate that such an incident involving Barge P-305 has revealed such gaps in laws and exposed the loopholes governing these sector for so long. The Committee have been assured by Ministry of Shipping that the Coasting Vessels Act, 1838 would be repealed and Registration, safety, security and marine pollution issues relating to non-self propelled vessels will be brought under Merchant Shipping Act by making amendments. The Ministry of P&NG may review other aspects of upstream sectors and identify any such gaps that may be needed to be plugged by legislation. The Committee, therefore, recommend that Ministry of Petroleum and Natural Gas should coordinate and give necessary inputs to ensure that the legislations and rules and regulations may be brought out by the Ministry of Shipping.

Recommendation No. 6

Need for Collaboration between IMD and ONGC in Weather Forecasting

The Committee note that Major oil installations in the country are located over Bombay High Region covering east central & adjoining northeast Arabian Sea (AS) along & off Maharashtra & Gujarat coast and another over the Bay of Bengal (BoB) in Krishna-Godavari basin along & off Andhra Pradesh coast. The safety and security of oil installations of public sector oil companies depends on many factors including the atmospheric and oceanic conditions over the region. India and the North Indian Ocean (NIO) experience various types of severe weather including tropical cyclones (TCs), depressions, low pressure systems, heavy rainfall, strong winds, rough seas, strong shelf slope current, high waves, astronomical tides and swells affecting the on shore and off shore operations.

The Committee note that the IMD is principal government nodal agency to provide weather forecasting and cyclone warnings for the country as well as the BoB and AS region. IMD also provides sea area bulletins for the ships plying in high seas areas beyond 75 km off the coastline, coastal weather bulletin for the sea area upto 75

km off coastline, port warnings along the coast of India and the Fleet forecast for Indian Navy.

IMD has informed the Committee that the forecasts and warnings issued by it are very essential for Oil and Natural Gas Corporation (ONGC) operations, it gave weather forecast 3 times per day regularly for Mumbai High, Godavari/ Krishna/ Cauvery basins and other fields, special weather forecast at the time of formation of depression/cyclone in the sea round the clock, special weather forecast during monsoon period to give safe passage to the ONGC vessels/rigs in emergency, Monthly consolidated report of weather forecast every month and statistical information as required for planning ONGC operations until 2010. The Committee further note that in 2010, ONGC decided to go for global tendering process to select the service provider. IMD being a Government agency could not participate in the tendering process and M/s Skymet was selected and thereafter the services of IMD were not catered to ONGC.

Therefore, the Committee recommend that ONGC should immediately restore its earlier practice of taking weather bulletins and advisories and also take location specific forecast for its installations from IMD. The Committee further desire that ONGC may also invest on weather monitor instruments in its installations and platforms and integrate with IMD and INCOIS to improve the accuracy of predictions and develop a decision support system to provide actionable disaster managements instructions for the Indian offshore industry. ONGC should collaborate with IMD to share past data collected by them to develop the impact based forecasting for onshore/offshore operations as also for risk analysis.

Recommendation No. 7

Need for Single Safety Agency for Petroleum Sector

The Committee note that OISD has been designated as the agency for overseeing safety in entire oil and gas sector and with its core competency is in a position to give undivided attention to safety in entire oil and gas sector in the country. OISD is manned by a group of technical experts in the area of design, operation,

maintenance, inspection, safety, environment, etc., drawn from the Oil & Gas industry. The Committee note that OISD has been notified as competent authority to exercise the powers and functions as stipulated in the Petroleum and Natural Gas (Safety in Offshore Operations) Rules 2008. The said Rule 2008 is meant for regulation of safety in offshore facilities engaged in exploration and exploitation of petroleum & natural gas and matters connected therewith. As an offshore safety regulator, OISD has been carrying out audits of various E&P installations for checking compliance to the rules and accident investigation apart from development of industry specific standards and guidelines.

The Committee note that facilities, as defined in the said Rule 2008, but does not include supply and support vessels or ships that transport petroleum in bulk and hence accommodation barges and vessels do not fall under the category of offshore facilities and thereby do not fall under the OISD purview under Petroleum and Natural Gas (Safety in Offshore Operations) Rules 2008. This function comes under Directorate General of Shipping which is the statutory authority under Merchant Shipping Act 1958 and other relevant acts.

The Committee further note that the Oil and Gas sector is being regulated by many agencies like DGMS, PESO, OISD, PNGRB, DGS, Fire Departments and Lifts Departments from State Governments, etc., for different activities in the petroleum sector. Since many agencies are performing focused and limited role in enforcing the rules and regulations under the law mandated to them, a holistic approach is missing for the sector.

The Committee vide its recommendation No. 3, in its Report No. 12 (15th Lok Sabha) on Safety of Oil Installations and recommendation No. 10, in its Report No. 24 (16th Lok Sabha) on Safety, Security and Environmental Aspects in Petroleum Sector had recommended formation of single agency to enforce safety related rules and regulations in the petroleum sector. However, the Ministry has shown great reluctance in implementing this recommendation much to the perils of the sector. The Committee find that the High Level Committee (HLC) constituted by the Government of India to enquire into the sequence of events leading to stranding of vessels and accident after the Cyclone Tauktae has also concluded that the Government consider setting up a single statutory empowered and equipped regulator for exercising effective oversight

on safety aspects of all onshore and offshore oil fields. The Committee, therefore, recommend to the Ministry of P&NG to create a statutory body for enforcing safety related rules and regulations for the petroleum sector in the country.

Recommendation No. 8

Relief Measures and Compensation Package

The Committee view that the relief and compensation for the victims and survivors is very important and there should not be any reluctance to do the needful. The Committee desire that the relief and compensation should be liberal as the accident could have been averted and lives saved if the barge could have been moved to safer location in the wake of the cyclone warnings.

The Committee note that M/s AFCONS had engaged Barge P-305 for accomdation purposes of its workmen. A total of 274 people were on board on Barge P-305 and Tug boat Varaprada. 86 people have lost their lives and remaining were survivoours in this incident.

The Committee note that ONGC were extended logistics support (including air ticket), boarding and lodging in Hotel to families at Mumbai. A special team of ONGC Officials was deputed at the Hospital where post-mortem was carried out for smooth coordination between the affected families. A nodal officer was assigned from ONGC for families of each BNV (Brave Nature Victim), who was responsible for facilitating logistics, boarding & lodging, counselling, interaction with police authorities, transportation of mortal remains to respective home station and any other local support.

The Committee note that ONGC, on humanitarian grounds, has disbursed a relief and rehabilitation amount of Rs 2 lakh each to the nominees/ next kin of the deceased and missing person's family and Rs 1 lakh each to the 188 survivors. Similarly, all 188 survivors have been paid an amount of Rs. 1.0 Lakh each Compensation by M/s Afcons. An Immediate relief of Rs 5 Lakh to each of the 66 BNV families has been paid by M/s Afcons.

The Committee note that full payment for 1st academic year completed. Mechanism for uninterrupted and assured payments in the long run (for upcoming years) is under exploration and shall be soon finalized by M/s Afcons. The Committee further note that Scheme for financial Support for education of the 77 children of BNVs up to graduation (3 & 4 year courses) implemented. A total amount of Rs. 9.67 Lacs for the academic year 2021-2022 released to eligible beneficiaries.

The Committee note that as per the agreement reached between Indian ship owners and trade unions, ship owners are liable to pay compensation to families amounting to 110 months wages with a minimum of Rs. 22 lakh for non-officers and Rs. 34 lakh for officers in the crew of Varaprada in case of death. Similarly, varying compensation has to be paid by M/s Afcons for 66 BNVs onboard P-305. The Committee recommend that compensation package should be finalized at the earliest to BNVs and the Ministry should establish an institutional mechanism consisting of representatives of Ministry of P&NG, ONGC and the contractors to ensure that all the victims and survivors shall get the compensation package as finalised.

Recommendation No. 9

Safety and Inspection of Vessels

The Committee note that ONGC has well-defined systems and procedure to ensure that the deployed vessel meets all the stipulated criteria for sea worthiness of the vessel. All vessels deployed in ONGC projects comply with provision of Life Saving Appliances / Fire Fighting Appliance (LSA/FFA) as per International Convention for the Safety of Life at Sea (SOLAS), (1974) Regulations.

The Committee note that Offshore Construction projects are executed by appointing LSTK (Lump sum turn key) contractor on EPC (engineering procurement and construction) basis. Chartering of barges and Employment of technical experts/marine engineers onboard to execute the project are done by LSTK contractor. To ensure compliance of the terms of contract, ONGC engages Third party Certification Agency (TPCA) and Third Party Inspection agency (TPI) who are deployed onboard barges/vessels as per project requirement. The Barges / Vessels for offshore projects are deployed during the well-defined fair weather conditions. Barges/Vessels for

offshore projects comply and meet with (i) Class certificates by classification agencies (ii) ISPS code (International Ship and Port facilities Security) (iii) MARPOL, (v) SOLAS (iv) General Trading License (GTL)/Specified Period License (SPL) (v) Flag Requirement.

The Committee note that ONGC rely on domain experts i.e., Master Mariner as well as Deck Officer who are engaged through Third party inspection agency (TPI) for carrying out Marine side inspection/ monitoring of barges/ vessels chartered. For all vessels deployed at offshore locations, a joint safety audit is conducted by team which includes representatives of ONGC, ONGC's Certification Agency Safety Officer, ONGC's Third Party Inspection Agency Master Mariner, and Contractor representative. ONGC has hired a Third Party Inspection Agency (TPI) M/s ABSIV (American Bureau of Shipping Industrial Verification) for safety inspection of vessels. All vessels are inspected at the time of hiring to ensure compliance of all statutory requirements as well as technical specifications. A vessel is cleared for operation only if found seaworthy and all machinery/equipment are in operational condition. In case of any deficiency, the vessel is put under downtime till rectification of defects.

The Committee note that engages third party inspection agencies for carrying out inspections for vessels and deploys safety officers from certification agencies. While this may fulfill the procedural requirements of rules and guidelines governing these activities, this dilutes the accountability and responsibility expected from the regular officials of ONGC. By engaging third party agencies for inspection and certification activities, ONGC has tried to save itself from owning direct responsibility for any deficiencies and lapses in such matters.

The Committee note that these barges and vessels are very important in its exploration and production activities of ONGC and desire it to develop its own team of officials to be deployed in these vessels and barges as it has more than four decades of expertise in handling offshore exploration and production activities. The Committee would expect that the Ministry and ONGC should view the inspection and certification processes more seriously and should strengthen its mechanism to certify these vessels before deployment and ensure the responsibility and accountability of its own officials rather than shift the onus on third party agencies engaged for these purposes.

Therefore, the Committee recommend that Ministry/ONGC should review its standard operating manuals and its internal control mechanism and ensure responsibility of its officials also in the inspection and certification process.

Recommendation No. 10

Replacement of Old Cranes in Offshore Installations

The Committee note that ONGC uses a variety of equipments like cranes, pumps, rotating equipments etc. in its installations for carrying out Exploration and Production activities. These equipments are required to be maintained in good working condition to ensure safety and uninterrupted work. The Committee note that there are 314 cranes installed on Process and Wellhead platforms of Western Offshore of ONGC. Out of these 224 cranes are more than 10 years old and only 36 are less than 5 years old. The Committee further note that as per existing equipment replacement policy, crane replacement period is prescribed as 20 years & beyond and the design life of crane is 25 years. The Committee is surprised to observe that an amount of Rs. 207.61 crore was incurred in last 5 years on spares, services and revamping of cranes with vintage above 10 years in western offshore region. Noting further, ONGC spent an amount of Rs. 7.609 crore (approx.) annually for maintenance of 20 owned cranes for offshore drilling operations, during the last three years.

The Committee, therefore, desire that there should be a review of the existing guidelines for all the equipments specially cranes that are in use at offshore and installations and an attempt should be made to reduce the maintenance cost whereby new cranes can be employed which are more effective and require less service and repair. The Committee further recommend that all the existing cranes which have run their life should immediately be disposed of to avoid any safety issue.

Recommendation No. 11

Safety Council

The Committee note that Government of India set up a "Safety Council" at the Apex in January, 1986 under the administrative control of MoP&NG as a special self-regulatory industry agency for safety matters & procedures in respect of Hydrocarbon

sector. Safety Council is headed by Secretary of MoP&NG as Chairman & includes members comprising Additional Secretary, Joint Secretaries, Chief Executives of all Public Sector Undertakings, at least two Chief Executives from Private / JV Companies on rotational basis, Statutory bodies such as Chief Controller of Explosives, Director General of Mines Safety, Adviser (Fire), Secretary, Central Electricity Board and Director General of Factory Advice service and Labour. Safety Council is assisted by Executive Director, OISD who also acts as the member secretary of Safety council. The Safety Council is completely packed with representatives of Government and PSUs and there is no representation of Industry Experts or independent Safety Professionals in this body.

The Committee note that to review the Safety performance of the Industry, the Safety Council meets at least once in a year and Western Offshore mishap of ONGC was a part of presentation for the 38th Safety Council meeting under the heading "Major Incident". The Committee have been informed that since a High-Level Committee (HLC) was constituted by the Ministry to inquire into the sequence of events leading to the stranding of ONGC vessels in the cyclone "Tauktae" and the initial proceeding of the HLC was going on, the incident was only briefly discussed and not recorded in the minutes of the meeting.

The Committee are unhappy to note that the Safety Council has not extensively deliberated on such an event regarding the Barge P-305 incident during Cyclone Tauktae and take necessary actions with all concerned agencies. The Committee view this as an unacceptable approach and would recommend that the Safety Council may be revamped and broad based by including more outside industry experts, academia, etc. and take steps to improve the levels of safety preparedness of the Petroleum Sector.

Recommendation No. 12

Implementation of High Level Committee (HLC) Report

The Committee note that Directorate General of Shipping is the statutory authority under Merchant Shipping Act 1958 and other relevant acts. As regard to the statutory investigation into the incident involving Barge P-305 during Cyclone Tauktae

it is being conducted by Directorate General of Shipping as per the provisions of Section 359 of the Merchant Shipping Act 1958.

The Committee have been further informed that measures have been taken by ONGC like creation of a Marine Cell at Mumbai headed by Master Mariner with the responsibility of Marine safety of all vessels operated for ONGC, a renowned international safety consultant has been hired for carrying out assessment of Safety Management system in ONGC, to facilitate Single point Authority for Vessel Information and Management (VIM) in offshore, a Task Force has been constituted by ONGC to review required technical specifications of each type of Barges/Vessels, Uniform Guidelines have been promulgated for issuing Risk based advisories during adverse weather conditions, Emergency Response Plans for Offshore Rigs and Installations have been revised to address such extreme cyclone conditions. Further, the Committee have been informed by ONGC that Regional Contingency Plan has been revised in consultation with Regional Coordination Committee comprising of Indian Navy, Air force, and Coast Guard.

The Committee note that the ONGC have appointed an Internal Enquiry Committee to identify deficiencies in the incident during Cyclone Tauktae and it has made its recommendations and many of them have been implemented. The Committee note that some of the recommendations include reviewing of procedure, systems, Manuals and guidelines etc. followed by ONGC in its various activities which may take some time to implement.

The Committee further note that additionally, MoP&NG had constituted a three member High Level Committee (HLC) to inquire into the sequence of events leading to the stranding of ONGC vessels in the cyclone Tauktae led by Director General of Shipping with DG-DGH and JS-MoD as other members and has associated ED-OISD with the HLC on the request of DG Shipping.

The Committee have been informed that the report submitted by High Level Committee is under review and consideration of the Ministry for necessary action as recommendations pertain to multiple Ministries. The Committee recommend that Ministry of Petroleum and Natural Gas should constitute an inter-ministerial group

officials and regularly monitor the progress of the implementation of the recommendations made by the HLC in a time bound manner. Action taken in this regard may be apprised to the Committee in three months.

Recommendation No. 13

Action against Third Party Agencies

The Committee note that on perusal of recommendations of the High Level Committee (HLC) constituted by Government of India to inquire into the sequence of events leading to cyclone Tauktae has brought out that none of 36 life rafts provided on the P-305 could be used, either due to the manufacturing quality or with respect to the age or the servicing of life rafts or both these aspects together as required by SOLAS and LSA Code. HLC have further noted that no immersion suits were provided on Barge P-305.

The Committee further note that P-305 was having Flag state exemptions from having life boat and immersion suits which if available would have saved the precious lives. The Committee therefore stress that a mechanism may be developed wherein these exemptions could be reviewed by Indian authorities and the companies engage them which are crucial in meeting such unforeseen events.

The Committee note that life saving safety equipments could have avoided such large number of BNV in cyclone Tauktae. Even though the larger responsibility for ensuring such compliance lies with the LSTK contractor, ONGC which had engaged third party inspection agency for carrying out such activities can not absolve completely. The Committee therefore, recommend that Ministry/ONGC should take action against the third party inspection and certification agencies who certified the life -rafts of P-305. The Committee further desire that regular servicing of life saving appliances be may be CCTV recorded and records of the same be duly maintained.

Recommendation No. 14

Need for Strict Verification of Documents

The Committee note that on perusal of the HCL findings that out of 261 person's Survival Training Certificates, only 192 could be verified from the e-governance system

of the DGS, DGS approved MTIs and the other institutes. Further, after a detailed scrutiny of the person's certificates it is seen that 112 person's certificates are found genuine and 80 person's certificates are found not authentic. Thus, it is seen that 58.33% person's certificates are only found genuine and 41.66% certificates are not authentic. The Committee feel that these are serious observations and well trained personnel could have reduced the number of BNVs during cyclone Tauktae. Further, the emphasis needs to shift away from completing procedural formalities to ensuring that the regulations are followed in letter and spirit so that loss of lives can be minimized in any such occurrence in future.

The Committee further desire that a procedure and regular schedule for carrying out drills be developed by all vessels and barges operating at Indian Offshore facilities. The Committee feel that had all the people on P-305 had genuine certificates, the response would have been more prompt and people would have been able to operate life saving appliances effectively. The Committee, therefore, recommend that ONGC needs to overhaul its internal approval mechanism in ensuring that the certificates submitted are properly checked by them.

Recommendation No. 15

Security of Oil Installations at ONGC

The Committee note that ONGC, an upstream Oil Company, operates both in Onshore and Offshore fields. The Committee further note that all these installations of ONGC are periodically security audited by IB / MHA as per the laid down norms. Besides, every two years, Internal Audits of these installations is carried out by a Team of Senior ONGC Security Officers.

The Committee note that sensitization programme and security awareness workshops are organized by eminent domain experts for the benefit of ONGC officials at Work Centres during Security Awareness Week, annually. Offshore Security Coordination Committee (OSCC) Meetings deliberates on Security issues and formulates mitigation plans for Offshore Installations / Work Centers keeping in view the inputs regarding threat and locational Vulnerability State wise.

The Committee note that Security for on-shore installations is provided by the Central Industrial Security Force (CISF) personnel who guard the installations and undertake necessary patrolling. Remote surveillance systems are also used for monitoring security of sensitive installations. All Installations are protected by boundary wall in compliance with the MHA guidelines. Ground/Aerial patrolling along Hydrocarbon pipelines and once a year company officials undertake a line walk as per the provisions stipulated in OISD standards.

For security of offshore installations, Vessel and Air Traffic Management System (VATMS) is being used to continuously monitor any unauthorized vessel approaching /operating in the offshore, besides regular air & sea surveillance by the Navy/ Coast Guard. 500 Meters Zone around the offshore installations is designated as the safety zone, primarily to control movement of vessels around the installation to avoid collision.

The Committee note that Security of oil installations both onshore and offshore are of vital importance as these are national assets and any violations of security protocols should be viewed seriously. ONGC may keep abreast with latest technologies like Drone, Robots, remote sensing, etc. and try to use them in their security systems to ensure proper surveillance and monitoring of its assets. The Committee recommend that the Ministry/ONGC should give utmost importance to security aspects and keep in coordination with the concerned authorities both at state and centre and ensure that security is maintained at high levels in its installations.

Recommendation No. 16

Cyber Security of Installations

The Committee note that ONGC has adopted an Information security policy which is in line with the cyber security policy of Government of India. Besides, it also complies with the International Information Security Standards viz. ISO 27001. For maintaining the global best practices in Information Security domain, ONGC has implemented Information Security Management System (ISMS) at its major data centres and for its sustenance, periodic internal and external ISO 27001 audits are

carried out. For monitoring, the organization wide Information Security alerts, ONGC has implemented Information Security Operation Centre (ISOC).

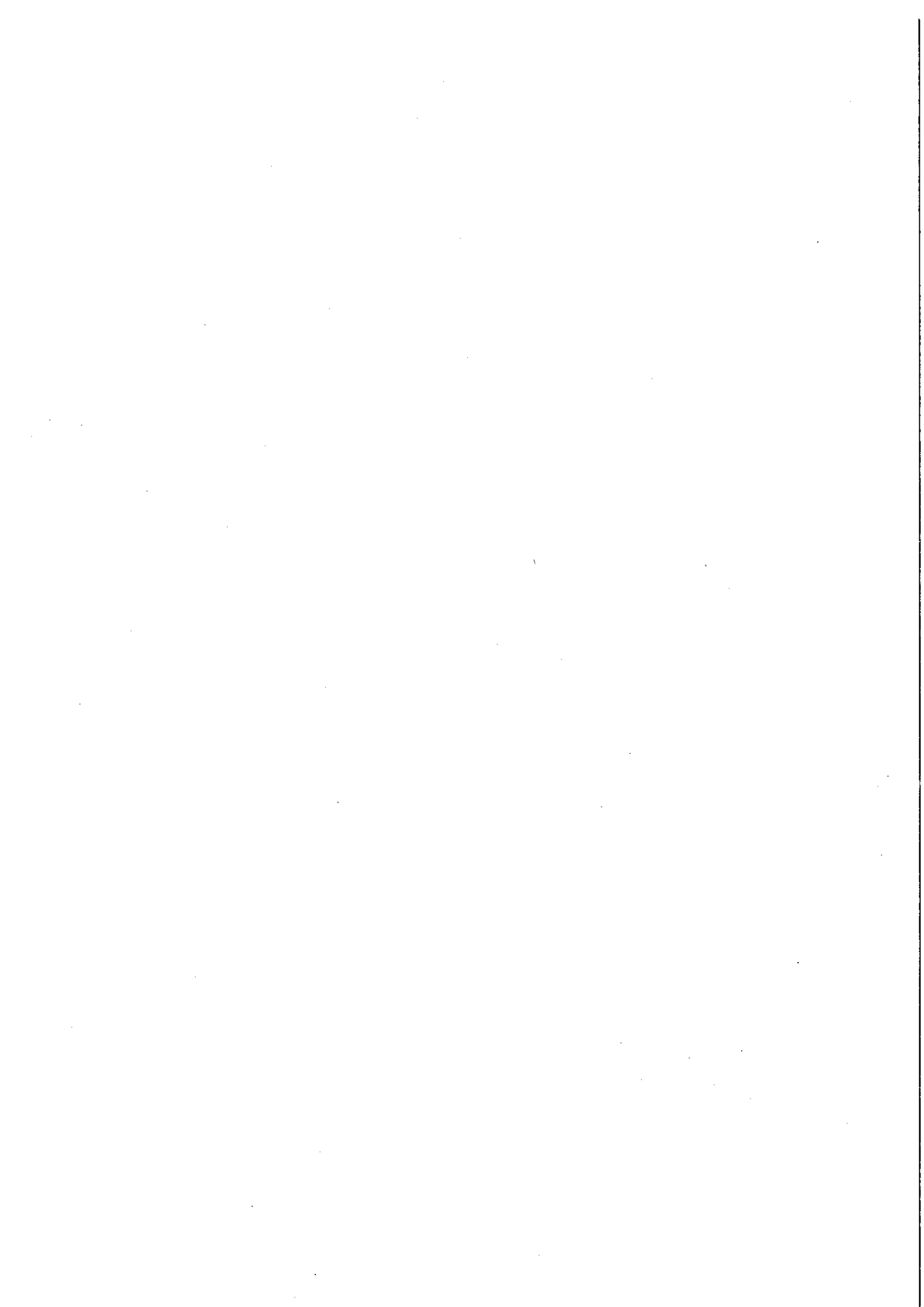
The Committee note that ONGC receives real time threat intelligence/alerts from the government agencies such as Indian Computer Emergency Response Team (CERT-In), Intelligence Bureau (IB), National Critical Information Infrastructure Protection Centre (NCIIPC) etc. Further the threat feeds from CERT-In has been integrated to ISOC by automating the feeds using the Trusted Automated Exchange of Intelligence Information (TAXII) standard, thereby improving the threat response time.

The Committee note that for employee awareness in Information Security domain, ONGC conducts variety of activities throughout the year viz. organising Information Security awareness talk by external domain experts, conduct of mock drills on phishing attack, issuance of advisories on Information Security, publishing e-Newsletter etc. The Committee note that the cyber attacks has increased in the recent times and has become one of the methods of disrupting economic activities of a country.

The Committee also note with satisfaction that no major cyber violation has been reported in ONGC so far, but would desire that ONGC should keep its vigil on this issue and should not become complacent on past record. The Committee desire that the assets of ONGC are national assets as well as strategic one, it should take the lead in developing cyber security measures by sponsoring / developing the information technology resources in which our country is having good talent and human skills. The Committee recommend that Ministry / ONGC should coordinate with the concerned agencies on cyber security regularly and take all steps required to avert any cyber attacks in its installations.

New Delhi;
04 April, 2022
14 Chaitra, 1944 (Saka)

RAMESH BIDHURI,
Chairperson,
Standing Committee on
Petroleum & Natural Gas.



MINUTES
STANDING COMMITTEE ON PETROLEUM AND NATURAL GAS
(2020-21)

SECOND SITTING
(20.10.2020)

The Committee sat on Tuesday, 20th October, 2020 from 1100 hrs. to 1245 hrs. in Main Committee Room, PHA, New Delhi.

PRESENT

Shri Ramesh Bidhuri - Chairperson

MEMBERS

LOK SABHA

2. Smt. Chinta Anuradha
3. Shri Pradyut Bordoloi
4. Shri Girish Chandra
5. Shri Topon Kumar Gogoi
6. Shri Unmesh Bhaiyyasaheb Patil
7. Dr. Kalanidhi Veeraswamy
8. Shri Janardan Singh Sigriwal
9. Shri Lallu Singh
10. Shri Ajay Tamta

RAJYA SABHA

11. Shri Narain Dass Gupta
12. Shri Kanakamedala Ravindra Kumar
13. Dr. Bhagwat Karad
14. Shri A. Vijayakumar
15. Ch. Sukhram Singh Yadav

SECRETARIAT

1. Smt. Abha Singh Yaduvanshi - Additional Secretary
2. Shri H. Ram Prakash - Director
3. Shri Tirthankar Das - Director
4. Shri Vinay Pradeep Barwa - Deputy Secretary
5. Shri Mohan Arumala - Under Secretary

Representatives of the Ministry of Petroleum & Natural Gas

1. Shri Tarun Kapoor - Secretary
2. Shri Sunil Kumar - Joint Secretary (Refinery)
3. Dr. Navneet Mohan Kothari - Joint Secretary (Mkt.)
4. Shri Ranjan Mehrotra - Director (Mo-LPG), OISD
5. Shri Arun Mittal - ED, Oil Industry Safety Directorate (OISD)

Representatives of Public Sector Undertakings

1.	Shri Shashi Shanker	-	CMD, ONGC
2.	Dr. Alka Mittal	-	Director (HR), ONGC
3.	Shri Anurag Sharma	-	Director (Onshore) , ONGC
4.	Shri Rajesh Kakkar	-	Director (Offshore), ONGC
5.	Dr. Baljeet Singh	-	Chief Security Officer, ONGC
6.	Shri S.C. Mishra	-	CMD, OIL
7.	Shri P.K. Goswami	-	Director (Operation), OIL
8.	Shri Manoj Jain	-	CMD, GAIL
9.	Shri P.K. Gupta	-	Director (HR)
10.	Shri S.M. Vaidya	-	Chairman, IOCL
11.	Shri Gurmeet Singh	-	Director (Marketing)
12.	Shri Ranjan Kumar Mohapatra	-	Director (HR)
13.	Shri Mukesh Kumar Surana	-	CMD, HPCL
14.	Shri Rakesh Misri	-	Director (Marketing)
15.	Shri K. Padmakar	-	CMD, BPCL
16.	Shri Arun Kumar Singh	-	Director (Marketing)

2. At the outset, the Hon'ble Chairperson welcomed Members of the Committee and representatives of the Ministry of Petroleum and Natural Gas/PSUs to the sitting of the Committee to have briefing by the representatives of the Ministry of P&NG/PSUs on the subject "**Safety and Security of Oil Installations of Public Sector Oil Companies**". Thereafter, the Secretary, Ministry of P&NG introduced his colleagues to the Committee. Then the representatives of OISD made an oral presentation on the subject.

3. Subsequently, Members of the Committee raised several issues related to the subject such as Safety and emergency preparedness in oil and gas industry, causes of accidents/fire incidents at oil and gas installations, actions taken against the officials responsible for such accidents, compensation policy for victims of such incidents, establishment of Emergency Response Centre, status of implementation of recommendations made by the committees set up for safety and security of gas and oil installations including M.B. Lal Committee and Apurvachand Committee, the role of Directorate of Industry Safety and Health with regard to safety audit and inspection at oil and gas installations, number of safety audits conducted by the authorities particularly at Baghjan installations, PESO monitoring system, lack of permanent staff in OISD, single safety monitoring regulatory framework to ensure safety and security of oil and gas installations, formation of a unified safety board, creation of buffer zone around oil and gas installation, response of States with respect to environmental aspect of

accidents, guidelines issued in respect of application of Geo-physical mapping/imaging, data regarding machineries and equipments being utilized at such installations, critical equipment maintenance and replacement policy, number of obsolete machineries and equipments being used, expenditure incurred on repairing of industrial equipments/machineries, real time monitoring/surveillance system to enhance safety and security of oil and gas installations, new legislations to ensure safety of installations, training and orientation programme for local community on disaster preparedness, statistics regarding number of installations where accidents occurred and its impact in terms of lives lost and commercial losses during last five years, application of artificial intelligence techniques in oil and gas industry.

4. Further, other issues like cyber security vulnerabilities in oil and gas industry, issues raised by CAG report regarding ONGC 2008 Rules, action taken by the Ministry to prevent such incidents, global position of India with respect to safety and security of oil and gas industry, special insurance scheme for the victims of accidents, mechanism followed to fix the responsibilities for disasters, new safety code 2020, oil spill prevention and responses, air, water, and soil contamination due to hydraulic fracking process, safety procedure in door to door delivery of diesel, detailed report regarding Baghjan and Bhubaneswar accidents, seminars conducted by PSUs on safety and security of these installations, powers of OISD, pipeline safety mechanism came up for discussion during the sitting. Thereafter, representatives of the Ministry/PSUs clarified on several issues raised by the Members and assured the Committee that the required details would be intimated to the Secretariat in writing.

5. Thereafter, the Chairperson thanked the representatives of the Ministry/PSUs for expressing their views and answering queries raised by the Members of the Committee. Further, to the queries where replies were not readily available, the Ministry was instructed to furnish the same to the Secretariat within ten days.

6. A copy of the verbatim proceedings is kept in the Branch for record.

The Committee then adjourned.

MINUTES
STANDING COMMITTEE ON PETROLEUM AND NATURAL GAS
(2020-21)
SIXTEENTH SITTING
(28.06.2021)

The Committee sat on Monday, the 28th June, 2021 from 1130 hrs. to 1340 hrs. in Main Committee Room, PHA, New Delhi.

PRESENT

Shri Ramesh Bidhuri - Chairperson

MEMBERS

LOK SABHA

- | | |
|----|------------------------------|
| 2 | Smt. Chinta Anuradha |
| 3 | Shri Girish Chandra |
| 4 | Shri Santosh Kumar |
| 5 | Shri Rodmal Nagar |
| 6 | Dr. Kalanidhi Veeraswamy |
| 7 | Shri M.K. Raghavan |
| 8 | Shri Dilip Saikia |
| 9 | Shri Janardan Singh Sigriwal |
| 10 | Shri Rajan Baburao Vichare |

RAJYA SABHA

- | | |
|----|----------------------------------|
| 11 | Shri Kanakamedala Ravindra Kumar |
| 12 | Shri Om Prakash Mathur |
| 13 | Dr. Bhagwat Karad |
| 14 | Shri Rambhai Harjibhai Mokariya |
| 15 | Dr. V. Sivadasan |
| 16 | Shri A. Vijaykumar |
| 17 | Ch. Sukhram Singh Yadav |

SECRETARIAT

- | | | | |
|----|----------------------------|---|----------------------|
| 1. | Smt. Abha Singh Yaduvanshi | - | Additional Secretary |
| 2. | Shri H. Ram Prakash | - | Director |
| 3. | Shri Vinay Pradeep Barwa | - | Deputy Secretary |
| 4. | Shri Mohan Arumala | - | Under Secretary |

Representatives of the Ministry of P&NG

- | | | | |
|----|-------------------|---|------------------|
| 1. | Shri Tarun Kapoor | - | Secretary |
| 2. | Shri Amar Nath | - | AS (Exploration) |

Representatives of DGH

- | | | | |
|----|------------------|---|---|
| 1. | Dr. Anand Gupta | - | Additional Director General
(Development), DGH |
| 2. | Shri Ajay Kansal | - | CGM (Production), DGH |

Representatives of OISD

- | | | | |
|----|----------------------|---|---|
| 1. | Shri Arun Mittal | - | Executive Director, Oil Industry Safety
Directorate (OISD) |
| 2. | Shri Ranjan Mehrotra | - | Director (Marketing), OISD |

Representatives of ONGC

- | | | | |
|----|------------------------------|---|---------------------|
| 1. | Shri Subhash Kumar | - | CMD, ONGC |
| 2. | Shri Rajesh Kumar Srivastava | - | Director (Offshore) |
| 3. | Shri Anurag Sharma | - | Director (Onshore) |
| 4. | Shri Pankaj Kumar | - | Executive Director |
| 5. | Shri Amit Kumar | - | CGM – Head Safety |

2. At the outset, the Hon'ble Chairperson welcomed Members of the Committee and representatives of the Ministry of P&NG/ONGC/OISD/DGH and informed that the sitting was convened to hear their views on the subject "**Safety and Security of Oil Installations of Public Sector Oil Companies including the recent Western Offshore Mishap**". Thereafter, the representative of ONGC made a presentation on the subject.

3. Subsequently, Members of the Committee deliberated on various issues related to the subject such as weather forecasting received from various agencies and organizations for offshore oil rigs and platforms in the wake of cyclone Tauktae, strategy adopted by ONGC and other agencies to mitigate the impact of the cyclone, on-site emergency plan to evacuate personnel working in various vessels and barges at offshore platforms, coordination efforts among ONGC, Indian Navy, Coast Guard and captain of Barge P-305 to tide over the impending cyclone, appointment of high level Committee in the aftermath of Barge P-305 disaster along with its findings. Members also sought to know about the details as to whether the cyclonic warnings were received from JTWC and Houston Forecasting Centre and copies of such orders, emergency meetings held at different levels of ONGC to handle the disaster.

4. Further, Members also raised the issues like role and responsibility of ONGC officials for supervision of barges, mechanism available with ONGC to ensure safety and security of offshore vessels and barges, anchoring management mechanism of Barge P-305, terms and conditions of the workfare for on board deployment of Barge P-305, sufficient availability of life saving equipment with barges and other vessels, inspections carried out to ascertain sea worthiness of vessels and barges, safety audit reports of vessels and choppers, third party inspection agency for vessels, certifying agency of Barge P-305, disciplinary action against ONGC officials for dereliction of duties w.r.t the Barge P-305 disaster also came up for discussion. The copies of inspection reports and safety audit reports of barges were also sought from officials of ONGC.
5. In addition, post disaster relief and financial assistance to victims of Barges P-305 and Varaprada, compassionate appointments to the next of the kin of the diseased, education of children of the victims, the number of survivors, the search for missing one and the identification of the deceased workers of Barges P-305 and Varaprada were also discussed.
6. Thereafter, the Chairperson thanked the representatives of the Ministry of P&NG/ONGC/OISD/DGH for expressing their views and answering queries raised by the Members of the Committee. Further, to the queries where replies were not readily available, the Ministry of P&NG and ONGC were instructed to furnish the same to the Secretariat within seven days.
7. A copy of the verbatim proceedings is kept in the Branch for record.

The Committee then adjourned.

MINUTES
STANDING COMMITTEE ON PETROLEUM AND NATURAL GAS
(2020-21)

EIGHTEENTH SITTING
(26.07.2021)

The Committee sat on Monday, the 26th July, 2021 from 1530 hrs. to 1730 hrs. in Committee Room 'D', PHA, New Delhi.

PRESENT

Shri Ramesh Bidhuri - Chairperson

MEMBERS

LOK SABHA

- | | |
|----|--------------------------------|
| 2 | Smt. Chinta Anuradha |
| 3 | Shri Topon Kumar Gogoi |
| 4 | Shri Rodmal Nagar |
| 5 | Shri Unmesh Bhaiyyasaheb Patil |
| 6 | Dr. Kalanidhi Veeraswamy |
| 7 | Shri M.K. Raghavan |
| 8 | Shri Dilip Saikia |
| 9 | Dr. Bharatiben Dhirubhai Shyal |
| 10 | Shri Janardan Singh Sigriwal |
| 11 | Shri Lallu Singh |
| 12 | Shri Vinod Sonkar |
| 13 | Shri Rajan Baburao Vichare |

RAJYA SABHA

- | | |
|----|----------------------------------|
| 14 | Smt. Kanta Kardam |
| 15 | Shri Kanakamedala Ravindra Kumar |
| 16 | Shri Rambhai Harjibhai Mokariya |
| 17 | Dr. V. Sivadasan |
| 18 | Ch. Sukhram Singh Yadav |

SECRETARIAT

- | | | | |
|----|----------------------------|---|----------------------|
| 1. | Smt. Abha Singh Yaduvanshi | - | Additional Secretary |
| 2. | Shri H. Ram Prakash | - | Director |
| 3. | Shri Vinay Pradeep Barwa | - | Deputy Secretary |
| 4. | Shri Mohan Arumala | - | Under Secretary |

Representatives of the Ministry of P&NG

- | | | | |
|----|-------------------|---|------------------|
| 1. | Shri Tarun Kapoor | - | Secretary |
| 2. | Shri Amar Nath | - | AS (Exploration) |

Representative of DGH

1. Dr. Anand Gupta - Additional Director General (Development), DGH

Representative of OISD

1. Shri Arun Mittal - Executive Director, Oil Industry Safety Directorate (OISD)

Representatives of ONGC

1. Shri Subhash Kumar - CMD
2. Shri Rajesh Kumar Srivastava - Director (Exploration & Offshore)
3. Shri Anurag Sharma - Director (Onshore)
4. Shri Pankaj Kumar - Executive Director
5. Shri Amit Kumar - CGM – Head Safety
6. Shri Ajay Dixit - GGM, Chief HSE

2. At the outset, hon'ble Members of the Committee have authorized the Hon'ble Chairperson to finalise and undertake the study visit of the Committee to Mumbai, Hyderabad and Bengaluru in the last week of August, 2021. Thereafter, the Hon'ble Chairperson welcomed Members of the Committee and representatives of the Ministry of P&NG/ONGC/OISD/DGH and informed that the sitting was convened to take oral evidence on the subject **"Safety and Security of Oil Installations of Public Sector Oil Companies including the recent Western Offshore Mishap"**.

3. Subsequently, Members of the Committee deliberated on various issues related to the subject such as weather forecasting received from various agencies viz. Skymet, IMD and strategy adopted by ONGC/OISD, Coast Guard and Indian Navy and other related agencies to mitigate the impact of the cyclone, on-site emergency plan to evacuate personnel working in various vessels and barges, appointment of high level Committee in the aftermath of Barge P-305 disaster along with its findings. Members also sought to know about the details as to whether the cyclonic warnings were received from JTWC and Houston Forecasting Centre and copies of such warnings, emergency meetings held in ONGC, advice given to contractors and the action taken in response to the same.

4. Further, Members also raised the issues like role and responsibility of ONGC officials for supervision of barges, agencies involved in safety and security of ONGC offshore installations, availability of long cranes and their safety audit, maintenance contracts, anchoring management mechanism of Barge P-305, inspections carried out to ascertain sea worthiness of vessels and barges including P-305, suspension of five ONGC officials and setting up of Committees to look into the incident. In addition, Committee Members desired compensation to victims be expedited at the earliest and a mechanism be instituted to oversee the timely disbursement of relief package. The Committee emphasized educational needs of children be taken care of and the early identification of the deceased workers be established by matching DNA with that of the families without further delay.

6. Thereafter, the Chairperson thanked the representatives of the Ministry of P&NG/ONGC/OISD/DGH for expressing their views and answering queries raised by the Members of the Committee. Further, to the queries where replies were not readily available, the Ministry of P&NG and ONGC were instructed to furnish the same to the Secretariat within seven days.

7. A copy of the verbatim proceedings is kept in the Branch for record.

The Committee then adjourned.

MINUTES
STANDING COMMITTEE ON PETROLEUM AND NATURAL GAS
(2021-22)
THIRD SITTING
(09.11.2021)

The Committee sat on Tuesday, 9th November, 2021 from 1100 hrs. to 1430 hrs.
in Main Committee Room, PHA, New Delhi.

PRESENT

Shri Ramesh Bidhuri - Chairperson

MEMBERS

LOK SABHA

- 2 Smt. Chinta Anuradha
- 3 Shri Pradyut Bordoloi
- 4 Shri Girish Chandra
- 5 Shri Topon Kumar Gogoi
- 6 Shri Rodmal Nagar
- 7 Shri Mitesh Rameshbhai Patel
- 8 Shri Unmesh Bhaiyyasaheb Patil
- 9 Shri M.K. Raghavan
- 10 Shri Chandra Sekhar Sahu
- 11 Dr. Bharatiben Dhirubhai Shiyal
- 12 Shri Lallu Singh
- 13 Shri Vinod Kumar Sonkar
- 14 Shri Ajay Tamta
- 15 Dr. Kalanidhi Veeraswamy
- 16 Shri Rajan Baburao Vichare

RAJYA SABHA

- 17 Shri Birendra Prasad Baishya
- 18 Shri Ripun Bora
- 19 Smt. Kanta Kardam
- 20 Shri Om Prakash Mathur
- 21 Shri Subhas Chandra Bose Pilli
- 22 Shri A. Vijayakumar
- 23 Ch. Sukhram Singh Yadav

SECRETARIAT

1. Smt. Abha Singh Yaduvanshi - Additional Secretary
2. Shri H. Ram Prakash - Director
3. Shri Vinay Pradeep Barwa - Deputy Secretary
4. Shri Mohan Arumala - Under Secretary

Representatives of the Ministry of Ports, Shipping and Waterways

- | | | |
|-----|---------------------------|-------------------------------------|
| 1. | Dr. Sanjeev Ranjan | - Secretary (PSW) |
| 2. | Shri Sanjay Bandopadhyaya | - Addl. Secretary (PSW) |
| 3. | Shri Amitabh Kumar | - DG (Shipping)- Addl. Secretary |
| 4. | Shri Vikram Singh | - JS (P&S) |
| 5. | Shri Lucas L. Kamsuan | - JS (DGLL) |
| 6. | Shri Bhushan Kumar | - JS(SM) |
| 7. | Shri Sunil Kumar Singh | - Adviser (Stats) - JS level |
| 8. | Shri H.N. Aswath | - DA (Ports) - JS level |
| 9. | Shri Arvind Chaudhary | - Economic Adviser - JS level |
| 10. | Capt. K.P. Jayakumar | - Nautical Adviser (I/C) - JS level |

2. At the outset, the Hon'ble Chairperson welcomed Members of the Committee and representatives of the Ministry of Ports, Shipping and Waterways to the sitting of the Committee and informed that the sitting was convened to have a briefing on the subject **'Safety and Security of Oil Installations of Public Sector Oil Companies'- Certification/Inspection of Offshore Vessels/ Barges and Maritime Rules applicable to Petroleum Sector**. Thereafter, the representatives of the Ministry got themselves introduced to the Committee and then, made a power point presentation on the subject.

3. Thereafter, Members of the Committee raised several issues related to the subject such as the responsibility of International Maritime Organisation (IMO) w.r.t. safety and security of shipping and prevention of marine and atmospheric pollution by ships, safety management system of ships, transfer of crude oil through crude carriers to oil refineries, operation of crude oil terminals as per the standards specified by OISD and PESO, international conventions on safety matters of shipping like SOLAS, COLREG, STCW and SUA etc. along with implementation of IMO conventions through various Acts like Merchant Shipping Act (1958), SUA Act (2002), Indian Ports Act (1908), Major Port Trust Authorities Act (2021), Light House Act (1927).

4. Further, the Committee also discussed the issue of certification of vessels in general and non-propelled vessels like Barges registered under (British era) Coasting Vessels Act (1838), lack of jurisdiction over Barges under Maritime Administration w.r.t. their safety and security, proposal for registration, safety and security of non-self propelled vessels under proposed Merchant Shipping Bill, proposal for location specific weather forecast for offshore platforms for better communication and understanding on the required decision making

between operators and contractors, proposal to ensure availability of emergency towing vessel w.r.t. barges and vessels for rough weather conditions, review in contract procedures, life saving appliances and training of offshore personnel for survival etc.

5. Also, issues like modification of Indian laws on the basis of international conventions, conducting regular mock drills, roster system for workers, environmental safeguards in the event of offshore disasters, seeking assistance from local fishermen during offshore disasters, dedicated satellite system for sea faring operations and adequate insurance and financial coverage for workers of vessels and barges at offshore etc were also raised during the sitting.

6. Thereafter, the Chairperson thanked the representatives of the Ministry of Ports, Shipping and Waterways for expressing their views and answering queries raised by the Members of the Committee. Further, to the queries where replies were not readily available, the Ministry was instructed to furnish the same to the Secretariat within ten days.

7. The witnesses then withdrew. Subsequently, representatives from the Ministry of Earth Sciences/Indian Meteorological Department (IMD), Indian National Centre for Ocean Information Services (INCOIS) were called in:

Representatives of the Ministry of Earth Sciences/ IMD/INCOIS

- | | | |
|----|-----------------------------|-------------------------------|
| 1. | Dr. M. Ravichandran | - Secretary |
| 2. | Dr. M. Mohapatra | - DG, IMD |
| 3. | Dr. T. Srinivasa Kumar | - Director, INCOIS, Hyderabad |
| 4. | Dr. R.S. Mahesh Kumar | - Scientist - F |
| 5. | Dr. Rajendra kumar Jenamani | - Scientist – F, IMD |

8. At the outset, the Hon'ble Chairperson welcomed Members of the Committee and representatives of the Ministry of Earth Sciences/IMD/INCOIS to the sitting of the Committee and informed that the sitting was convened to have a briefing on the subject '**Safety and Security of Oil Installations of Public Sector Oil Companies**'- **Weather Forecasting including Cyclone Warnings**. Thereafter, the representatives of the Ministry of Earth Sciences/IMD/INCOIS got themselves introduced to the Committee and then, made a power point presentation on the subject.

9. Thereafter, Members of the Committee raised several issues related to the subject such as forecasting strategy, prediction models with reference to cyclone warnings, round the

clock monitoring watch with land, ocean atmosphere and space based observations, multi hazard weather warning system, joint space based communication system being developed by INCOIS, ISRO & IMD and social media intervention with mobile application system.

10. Further, ocean observation network through wind speed, direction, atmospheric pressure, clouds, air temperature, humidity, sea surface temperature, ocean sea waves and swell height of sea etc were also came up for discussion.

11. In addition, issues like issuance of bulletins w.r.t. genesis of cyclone Tauktae, meeting of DG, IMD with Cabinet Secretary, earlier practice of forecasting services of IMD used by ONGC Cell from IMD till 2010 and the subsequent discontinuation of the same by ONGC, likely resumption of forecasting services between the two organizations in near future, synergy of SoPs of Ministry of Earth Science and ONGC, necessity of conducting training programme for onshore and offshore oil sector given the Indian ocean basin witnessing cyclones twice in a year, improvement and modification of 'MAUSAM APP' in all Indian languages were raised by Members and replied by the officials.

12. Thereafter, the Chairperson thanked the representatives of the Ministry of Earth Sciences/IMD/INCOIS for expressing their views and answering queries raised by the Members of the Committee. Further, to the queries where replies were not readily available, the Ministry was instructed to furnish the same to the Secretariat within ten days.

13. A copy of the verbatim proceedings is kept in the Branch for record.

The Committee then adjourned.

MINUTES
STANDING COMMITTEE ON PETROLEUM AND NATURAL GAS
(2021-22)
FIFTH SITTING
(14.12.2021)

The Committee sat on Tuesday, 14th December, 2021 from 1530 hrs. to 1700 hrs. in Main Committee Room, PHA, New Delhi.

PRESENT

Shri Ramesh Bidhuri - Chairperson

MEMBERS

LOK SABHA

- 2 Smt. Chinta Anuradha
- 3 Dr. Ramesh Chand Bind
- 4 Shri Pradyut Bordoloi
- 5 Shri Topon Kumar Gogoi
- 6 Shri Naranbhai Kachhadiya
- 7 Shri Rodmal Nagar
- 8 Shri Mitesh Rameshbhai Patel
- 9 Shri M.K. Raghavan
- 10 Shri Chandra Sekhar Sahu
- 11 Shri Dilip Saikia
- 12 Shri Janardan Sing Sigriwal
- 13 Dr. Kalanidhi Veeraswamy
- 14 Shri Rajan Baburao Vichare

RAJYA SABHA

- 15 Shri Birendra Prasad Baishya
- 16 Shri Om Prakash Mathur
- 17 Shri Rambhai Harjibhai Mokariya
- 18 Dr. V. Sivadasan
- 19 Shri A. Vijayakumar
- 20 Ch. Sukhram Singh Yadav

SECRETARIAT

1. Smt. Abha Singh Yaduvanshi - Additional Secretary
2. Shri H. Ram Prakash - Director
3. Shri Vinay Pradeep Barwa - Deputy Secretary
4. Shri Mohan Arumala - Under Secretary

Representatives of the Ministry of P&NG

1. Shri Alok Tandon - Secretary
2. Shri Amar Nath - AS (Exploration)

Representatives of DGH

1. Shri Manjeet Singh Katoch - CGM

Representatives of OISD

1. Shri Vikas Kumar Sharma - Director (E&P)
2. Shri Arun Mittal - ED

Representatives of ONGC

1. Shri Subhash Kumar - CMD
2. Dr. Alka Mittal - Director (HR)
3. Shri Anurag Sharma - Director (Onshore)
4. Shri Pankaj Kumar - Director (Offshore)
5. Shri C. Mathavan - ED- Assest Manager, Mumbai High
6. Shri Ajay Dixit - Chief HSE
7. Shri Amit Kumar - Head Safety
8. Shri P.K. Panda - Head, Marine Cell

2. At the outset, the Hon'ble Chairperson welcomed Members of the Committee and representatives of the Ministry of P&NG/ONGC to the sitting of the Committee and informed that the sitting was convened to take oral evidence of representatives of the Ministry of P&NG/ONGC on the subject "**Safety and Security of Oil Installations of Public Sector Oil Companies - Weather Forecasting Services/ Certification / Inspection of Offshore Vessels/Barges and Maritime Rules applicable to Petroleum Sector**". Thereafter, the representatives of the Ministry got themselves introduced to the Committee and then, made a power point presentation on the subject.

3. Thereafter, Members of the Committee raised several issues related to the subject such as tendering process for engaging private weather forecasting agencies, divergent views / statements w.r.t. weather forecasting about cyclone Tauktae, the inbuilt variations in a particular forecast, issues related to registration of Barges/vessels, training and assessment of internal crisis management teams for safety and security, communication log between ONGC officials and Barge captain of Barge P-305, standards of forecasting devices and machines, the global standards for forecasting, third party audit of safety structures, trials of rescue boats, filling up of senior level positions in the organization with well qualified and experienced officials, construction of infrastructure like roads and other civic amenities as part of CSR in the operational areas of ONGC in KG Basin, etc.

4. Further, the Committee also discussed the issue of emergency preparedness and action taken to meet eventualities in future in coordination with various stakeholders, strengthening forecasting safety alert systems, implementation of latest technologies like artificial intelligence in safety, and security of the installations, compliance with international maritime safety standards and also emphasis on environmental concerns, qualitative and cost effective tendering process and age norms for offshore vessels.
5. Thereafter, the Chairperson thanked the representatives of the Ministry of P&NG/ONGC for expressing their views and answering queries raised by the Members of the Committee. Further, to the queries where replies were not readily available, the Ministry was instructed to furnish the same to the Secretariat within ten days.
6. A copy of the verbatim proceedings is kept in the Branch for record.

The Committee then adjourned.

MINUTES
STANDING COMMITTEE ON PETROLEUM AND NATURAL GAS
(2021-22)

TWELFTH SITTING
(04.04.2022)

The Committee sat on Monday, the 4 April, 2022 from 1500 hrs. to 1530 hrs. in Committee Room 'D', PHA, New Delhi.

PRESENT

Shri Ramesh Bidhuri - Chairperson

MEMBERS

LOK SABHA

2. Dr. Ramesh Chand Bind
3. Shri Topon Kumar Gogoi
4. Shri Naranbhai Kachhadiya
5. Shri Mitesh Rameshbhai Patel
6. Shri M.K. Raghavan
7. Shri Chandra Sekhar Sahu
8. Shri Dilip Saikia
9. Dr. Bharatiben Dhirubhai Shiyal
10. Shri Janardan Singh Sigrival
11. Shri Lallu Singh
12. Dr. Kalanidhi Veeraswamy

RAJYA SABHA

13. Smt. Kanta Kardam
14. Shri Rambhai Mokariya
15. Shri Subhas Chandra Bose Pilli
16. Shri A. Vijayakumar
17. Ch. Sukhram Singh Yadav

SECRETARIAT

1. Shri H. Ram Prakash - Director
2. Shri Brajesh Kumar Singh - Deputy Secretary
3. Shri Mohan Arumala - Under Secretary

2. At the outset, Hon'ble Chairperson welcomed the Members to the sitting of the Committee. The Committee then took up for consideration draft Report on the subject '**Safety and Security of Oil Installations of Public Sector Oil Companies - with specific reference to Western Offshore Mishap during Cyclone Tauktae**' and adopted the same without modifications.

3. The Committee also decided to include a recommendation on 'Replacement of Old Cranes' in the Report. The draft recommendation was circulated during and accepted by the Committee. It is placed at Recommendation No. 10.

4. xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx

5. The Committee then authorised the Chairperson to finalize the Report and present/lay the Report in both the Houses of Parliament.

The Committee then adjourned.

xxx: Matter not related to the subject.

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Minutes of the 56th Steering Committee Meeting

Meeting	Date	Time	Venue
56 th Steering Committee Meeting	15 th June 2021, Tuesday	1030 Hrs	Video Conference (via Microsoft Teams)

- 1.0 Shri Arun Mittal, Executive Director (ED), OISD chaired the meeting (list of participants attached at Annexure-I).
- 2.0 **Welcome Address & Introduction**
 Additional Director (EDS), Sh. Parmod Kumar on behalf of Oil Industry Safety Directorate (OISD), welcomed all the members present in the meeting and meeting started with introduction of Principal Penalists (PP).
- 3.0 **Opening remarks & keynote address by ED OISD**
- 3.1 At the outset, ED-OISD extended warm welcome to all the Steering Committee members and appreciated the efforts of entire Oil & Gas Industry for maintaining the continuous operations & smooth supplies during the tough times of COVID-19 pandemic.
- 3.2 ED-OISD further expressed that 2020-21 was a challenging year for OISD also, as planning of audit was not an easy task and many audits has to be rescheduled, carried out in physical, virtual & hybrid mode. Despite of all the challenges, 2020-21 was memorable & record year for OISD in terms of number of activities carried out as follows:
- ✓ OISD carried out 206 safety audits against the plan of 153, which is all time high record combining together for Refinery, Marketing and E&P sectors.
 - ✓ In pipeline section, safety audit of 8778 km of cross-country pipelines was carried out against the plan of 8000 km.
 - ✓ OISD carried out 67 Pre-Commissioning Safety Audit (PCSA), which is again all time high and surpassed the previous best of 65, which was achieved in 2019-20.
 - ✓ OISD had also earned all time high revenue of ₹ 4.4 Cr, which is 49% more in comparison with 2019-20.
 - ✓ As a new initiative, OISD had carried out safety audit of two major ports as per request of Ministry of Ports, Shipping & Waterways.

- ✓ OISD had introduced & established internal MoU system between ED-OISD and different sections of OISD, which helped to achieve excellent performance in all parameters in 2020-21.
- ✓ OISD has carried out thorough revision of audit checklist in 2020-21 to keep pace with the requirements and to include accident investigation recommendations.
- ✓ OISD had conducted 10 workshops/ seminar in 2020-21 covering all the oil & gas sectors. Being a virtual mode, the participation was very high and had covered more than 1500 participants

3.3 ED-OISD informed that, four standards were adopted by the Steering Committee in the last meeting (55th Steering Committee) and four standards will be presented for adoption during the current meeting. These eight standards will be put up for approval in the Safety Council Meeting, which is tentatively scheduled in the month of July/Aug 2021. He also informed that, apart from these standards, twenty-two (22) more standards are under different stages of revision as of 31st March 2021. Few more standards will be taken up during 2021-22. It is the endeavor of OISD to revise the standard at least once in ten years. However, in case Industry desires to revise any particular standard, OISD will consider the same. He asked industry to do gap analysis w.r.t. revised standards & new code, rules & regulations and take necessary actions to bridge the gap.

(Action by: Industry)

- 3.4 OISD had conducted webinar on 'World Environment Day' on 8th June 2021 through eminent speakers, which was attended by more than 600 participants of oil & gas sector across the country. Process & Engineering (P&E) department of OISD has started a new initiative to conduct webinar called "Suraksha Samwad" on every second and fourth Thursday for a period of 90 minutes for upgradation of knowledge and dissemination of information among oil & gas industry members. Case study, Presentation on Safety Management System, Standard and Audit findings will be discussed by the subject experts from OISD/ Industry. ED-OISD asked the industry to participate in large numbers.
- 3.5 ED-OISD informed that OISD is planning to conduct international conference/ workshop in August 2021 and requested industry members to come up with ideas, topics or faculties of top National/ International level speakers.
- 3.6 Safety awards for 2018-19 which could not be presented due to COVID-19, would now be presented along with the awards for 2019-20 which have already been finalized by the MoP&NG constituted committee for the purpose. It was indicated that OISD plans to tentatively hold a hybrid function of such awards sometime in August 2021. OISD is also in the process for revision of safety award format & evaluation methodology and committee involving OISD & EIL officers has been formed.

- 3.7 Industry had handled two cyclones 'Tauktae' and 'Yaas', which struck at West & East Coast respectively. A major incident occurred at Mumbai High, wherein 6 vessels and barge were caught in the cyclone. Barge 'P-305' and 'Varaprada' got drowned and many people (crew) died. Ministry had constituted high level committee to inquire the incident and recommendations out of this inquiry will be communicated to industry for implementation.
- 3.8 ED-OISD highlighted about Baghjan blow out, which occurred in 27th May 2020. As per NGT order, high level committee has been formed, which is chaired by Secretary, PNG and members consisting of DG-DGH, DG-DGMS, CCOE, Nagpur and ED-OISD. Committee is supposed to recommend remedial measures and safety precautions. One of the TOR of the committee is to lay down the road map to ensure compliance of safety protocols in all similar installation.
- 3.9 ED-OISD emphasized that based on the recommendations of high-level committee for 'Tauktae' and 'Baghjan blow out', the industry needs to review their documents, contracts, bridging documents, ERDMP, SOP and other related documents. One committee comprising members from OISD, ONGC, OIL, Reliance and Cairn is already working on SOP and their recommendations shall also be shared.
- 3.10 It was informed that OISD is carrying out audit once in three to five years depending upon the installations and despite it being 5th or 10th audit of the location; number of observation/recommendations are not reducing and this is a matter of great concern. Many of the points are repeated and related with Maintenance & Inspection and fire-fighting system. While emphasizing the importance of internal auditing process of the companies, it was shared that it is very important for the industry to improve their internal controls. ED-OISD shared that the quality of such audits being carried out by the industry has scope for further improvement. ED-OISD also emphasized the importance of reporting of unsafe act and unsafe conditions at the industry level. This reporting has to be done not only by safety officer but by all employees including contract workers.
- 3.11 Monitoring of compliance of audit, inspection, QRA and HAZOP recommendations is very important. Compliance shall be regularly monitored through Review and Safety Committee meetings at location level and long pending observations at higher level.
- 3.12 It was informed that OISD is getting internal investigation report from industry for major & minor incidents. Though some of the internal reports were quite good, however some of the reports are below par, in which even the basic reasons were not identified. Delay in getting of internal investigation report is also a matter of concern. ED-OISD reiterated that internal inquiry is a tool to identify weaknesses and bridge the gap in professional manner.
- 3.13 Member Nayara Energy Limited appreciated OISD for "Suraksha Samwad" initiative and highlighted that industry as a whole will be benefitted from such activity.



Forecasts / Warnings provided		
IMD and INCOIS (Ministry of Earth Sciences)	SKYMET	STORMGEO
<p>1. IMD provided the first information about the likely formation of a Low Pressure area over the Arabian Sea on 6th May. (Along with this, outlook bulletin, the likely impacts over the Maritime activities including Fishing, Shipping etc. were also mentioned). From 10th May, the Bulletins indicated the possible intensification of the system into a Cyclonic Storm. From 14th May onwards, IMD started providing the track and intensity forecasts and the wind structure forecasts then onwards indicated quite consistently that the Cyclone is likely to intensify further and the Distance that it might be maintaining from Mumbai would be within 150 km from the coast line.</p> <p>2. INCOIS also provided regular updates (3 hourly) on the cyclone Tauktae, on the expected 'Significant wave height' and other important oceanic parameters such as swells, swell surges, surface and subsurface currents and disseminated the messages / warnings through multiple modes to all concerned stakeholders right from fishermen to offshore industries (ONGC), ports, Navy, Coast guard, disaster management authorities etc. Typical INCOIS-IMD Joint bulletins issued during this event for 'Special Messages', 'Orange Message' and 'Red Message'. <u>It predicted Phenomenal Sea State (corresponding to 80-90 Knots winds) predicted by IMD for 15th and 16th May over the Mumbai High region.</u></p>	<p>Stated on 13th May that Winds would increase from 15th onwards. Strong winds or gale winds with choppy to large choppy seas likely from 17th May to 19th May (max wind speed may reach 90-100 KMPH and wave height likely between (16-19 ft). Sky may turn cloudy from 16th becoming overcast gradually. They also cautioned that: - Any work may please be suspended from 16th evening to 19th May or extreme precaution may be adopted.</p> <p>On 14th, Winds would increase 15th onwards. Strong winds or gale winds with choppy to large choppy seas likely from 17th May to 19th May (max wind speed may reach 90-100 KMPH and wave height likely between 16-19 ft). Cloudy sky becoming overcast gradually. Rain and thunder shower may start from 15th May evening and frequent spell gradually. Caution: - Any work may please be suspended from 16th evening to 19th May or extreme precaution may be adopted.</p> <p>Similar forecasts continued on subsequent days as well.</p>	<p>On 14th May, the forecasts stated that the system is moving North at 5 knot. The disturbance will likely be upgraded to a tropical depression or cyclone later today and become a large and powerful tropical cyclone through early next week as it passes 100-200 miles off the west of the coast of India. The likely cyclone will approach Gujarat and southeast Pakistan early next week and could make landfall over western Gujarat by Tuesday morning.</p> <p>Then on 15th May, it stated Tropical Tauktae about 117 miles to the west of Mangaluru, will track <u>more westward</u> and that the upper level wind flow may steer the cyclone more to the west, away from the southwest and west-central coast of India. Tropical storm force winds and heavy rainfall will remain possible from Kerala to Gujarat. <u>However, winds experienced from Tauktae may be lower from Maharashtra to Kerala than previously predicted.</u> With our westward adjustment of the track, the tropical cyclone and landfall threat increases for southern Pakistan</p>

Summary		
<p>It may be noted that though there had been a slight deviation in the Landfall location as per the forecast tracks, the track remained quite consistent with respect to the distance from Mumbai High region. The closest distance which the Cyclone maintained with respect to Mumbai (coast and not the High area) had been 145 km to its west at 1130 IST of 17th May 2021. From the track forecasts it is also noticed that this distance remained within 150 - 200 km range all through the forecast period and the deviations within this range could be negligible considering the scale of a Cyclonic Storm in terms of the action point of view. This has led to the consistency in the impact forecast for the region as well.</p> <p>Accordingly the wave height forecasts from INCOIS also remained to be quite consistent and actionable.</p>	<ul style="list-style-type: none"> • These forecasts were underestimating the intensity by limiting the forecast wind upto 90-100 kmph and wave height upto 16-17 feet. • Further it delayed the commencement of gale wind over the Mumbai High area • The terminology used for sea condition was not a standard one and hence cannot be related to wave height • There was no heavy rainfall warning till 16th evening. Thus, underestimating the impact of squally weather. • Wind predicted and the waves expected were not in agreement with each other. • The warning was not indicating the clear action, as it always gave option of either/or. In a warning message action suggested should be clearly written. 	<ul style="list-style-type: none"> • Forecasts lacked consistency. • It could have misguided the users to a significant extent, when the forecast track was changed, making it more westwards on the crucial day of 15th May. • Too late to act in inclement weather. Both the predictions are too late to trigger action corresponding to 80-95 knot (145 - 155 kmph) as predicted by them. Skymet did not predict heavy rain during 18th/1830 IST.

Table 5.3: Forecasts / warnings provided for the Extremely Severe Cyclonic Storm (Tauktae) by (1) IMD - Cyclone forecasts and INCOIS- wave height forecasts (2) Skymet and (3) StormGeo

7.2.2 Summary of the examination of the training related certificates of 13 persons who were there on board of Varaprada on the day of Tauktae incident

As per the data submitted by M/s AFCONS, it is found that all the 13 persons on board got certificates issued by different Maritime Training Institutes approved by D.G Shipping. The details of 5 such certificates, of 5 persons are not found available in the E-Governance system of D.G Shipping. It is noticed that, as per e-governance data, certificate number of one of the person on board Varaprada was found to be matching with the certificate number issued to another person.

7.2.3 Training related certificates of persons on board of Papaa 305

261 persons were on board Papaa 305 on the day of Tauktae incident. The certificates received from M/s AFCONS have been examined for their training details and their status. The details of the certificates available with E-Governance system of DG Shipping were checked. The emails were sent to the DGS approved MTIs for confirmation of the issue of certificates where the certificate details were not available on the E-Governance system. The emails were also sent to the other institutes who have provided the training for Basic Offshore Safety Emergency Training (BOISET) training approved or not approved by Offshore Petroleum Industry Training Organization (OPITO) for getting the confirmation of the issue of certificates. It is found that out of 261 persons on board of Papaa -305, 124 persons got trained from DGS approved MTIs, 132 got trained from other institutes who have provided the BOISET training approved or not approved by OPITO and 5 got trained from both DGS approved MTIs and other institutes. It is also noticed that a single person has undergone the training for one or more certificates from either institute.

7.2.4 Certificates Issued to the persons by the DGS approved MTIs:

Out of 124 persons who got trained from DGS approved MTIs, it is found that 71 got trained for DGS approved Courses, 32 got trained for DGS not approved Courses and 21 got trained for both DGS approved and DGS not approved Courses.

The availability of certificates in E-governance system of DGS and the response given by the DGS approved MTIs for clarification about certificates issued or not are found in case of certificates of 107 persons out of 124 on board and no details are available in case of 17.

Out of 107 persons, 42 person's certificates are found available with e-governance system of DGS, 5 with MTIs and 60 are neither available in e-governance nor with MTIs. The certificates which are neither available in e-governance nor available with MTIs are not authentic.

It is also found that the certificates issued to the persons on board are from 25 DGS approved MTIs. Among the 25 DGS approved MTIs, 4 are found closed and one is suspended.

7.2.5 Certificates issued to the persons by other Institutes:

Out of 132 persons who got trained from other institutes, the responses of other institutes for clarification about certificates issued or not are available in case of 81 person's certificates and no response is available for 51.

Out of 81 persons, 61 person's certificates are found available with other Institutes and 20 are not available with them. The certificates which are not available with other institutes are not authentic.

It is also found that the certificates issued to the persons on board are from 18 other institutes. Among the 18 other institutes only 2 are found approved by OPITO.

7.2.6 Certificates issued to the persons by both DGS approved MTIs and other Institutes:

Out of 5 persons who got trained from both DGS approved MTIs and other institutes, it is found that 4 got trained for DGS approved courses and 1 got trained for DGS not approved courses.

The responses of DGS approved MTIs for clarification about certificates issued or not are available in case of 4 person's certificates out of 5 on board and no response is available for 1.

Out of 4 persons who got trained for DGS approved courses, it is found that the clarification is available in case of 3 person's certificates and no response is available for 1. It is found that certificates of 2 persons are available with e-governance of DGS and 1 certificate is available with MTI. The response in case of 1 person who got trained for DGS not approved courses, it is found that his certificate detail is available with MTI.

7.2.7 Conclusion

In view of the above, the following conclusions may be drawn;

1. Out of 261 person's certificates, only 192 could be verified from the e-governance system of the DGS, DGS approved MTIs and the Other Institutes. Thus 73.56% person's certificates could be verified.
2. After a detailed scrutiny of the person's certificates for which clarifications have been received from DGS approved MTIs and other Institutes, it is seen that 112 person's certificates are found genuine and 80 person's certificates are found not authentic. Thus it is seen that 58.33% person's certificates are only found genuine and 41.66% certificates are not authentic.

Regarding details of 'survival training' requirements which is given to personnel working offshore, refer to *Annexure 18*.

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approaching cyclone, a fresh mooring analysis of the revised location with revised weather parameters was also not carried out.

E&P operators need to develop and follow detailed SOP for the need of carrying out mooring analysis during deployment of a Barge in the field and subsequent movements and change of weather windows. Mooring analysis reviewed by competent agency must be kept on-board, specifying the environmental parameters (Limiting Weather Conditions) beyond which the Barge cannot maintain its position and must leave the operational area. The managers of such vessel must ensure that the vessel is towed away to safer location in case of weather forecast data exceeds the 'Limiting Weather Conditions.

14.15 Training

The training requirements and verification and monitoring of the training of personnel on board were found to be less than adequate. Veracity of certain training certificates and the institutes issuing them were also not completely reliable. Some training certificates were issued by institutes not accredited for imparting the training.

The E&P operators need to explicitly include in its contract the professional and survival training all the personnel need to undergo before coming on board the Barges or the vessels and the need to undergo these training from accredited agencies (DGS or OPITO approved). ONGC should get accreditation for the survival at sea training being provided at its institute at Goa.

E&P operators and contractors need to verify that the training courses undergone by all individuals are standard courses from institutes accredited to provide that training and that the certificates are genuine.

DGS is maintaining a system, wherein details of all such trainings being imparted by its recognised institutes is maintained with certificate number for traceability purpose. Contractors/operators should use this system, developed by DGS, for verification of authenticity of certificates of crew developed for offshore duties.

Such system is also available for OPITO approved trainings, and the same should be used by the contractor/operator for verification.

14.16 Drills

A regular drill schedule and procedure for carrying out the drills needs to be developed by all Vessels and Barges operating at Indian offshore facilities. It has to be ensured by the operators and contractors that the schedule is followed and all personnel on board are competent in use of all life saving appliances and actions to be taken during emergencies. The drills amongst other should include the following:

- a. Annual vessel-shore drill, which should include various scenarios, contingency measures required, mass evacuation of personnel within stipulated timeframe, etc.
- b. To ensure that personnel get adequate practical handling experience in operation of life rafts, the accommodation barges, shall carry 10% excess of the required life

raft capacity. This excess capacity life rafts are to be used for training purpose. This training may be coupled with the annual vessel-shore drill.

14.17 Life Saving Appliances

It is of utmost importance that the servicing of life saving appliances such as inflatable life rafts, rescue boats, life jackets, immersion suits, hydrostatic release units, mass evacuation systems, etc. is done as per the applicable provisions. Hence, for enhancing the quality of servicing the lifesaving appliances and ensuring due accountability, it is recommended that servicing of aforesaid equipment is recorded on CCTV and records of same are duly maintained.

Barge P-305 had only Life-rafts for abandonment, there were no Life-boats. The Barge was certified under MODU code in which there is a requirement for MODUs to carry Life-boats. However, this Barge had obtained an exemption from Flag state. The availability of Life-boats in the Barge would have helped in more people being saved. As per statement of several survivors, a number of life-rafts collapsed soon after inflating when put to use. Particularly, no life-raft could be used to save people on P-305.

All accommodation barges deployed in Indian EEZ need to have lifeboat(s) and life-rafts complying with applicable SPS Code or MODU Code. Dispensations for exemptions in this regard, as per Merchant Shipping Notice – 22 of 2013 needs to be withdrawn. E&P operators should additionally ensure through contractual provision that no exemptions in this regard shall be accepted even if allowed under the codes.

E&P operators should follow OISD guidelines regarding the useful life of Life Saving Appliances. Age of the life raft may be limited to a maximum of 10 years for all Indian vessels and Foreign Flag vessel operating on long term basis on Indian EEZ. Indian Navy uses 10 years as age limit for inflatable life raft on its ships.

They also need to have immersion suits as per applicable SPS or MODU Code. E&P operators and the contractors also need to monitor the timely servicing of all the Life Saving Appliances through accredited serving agencies and videograph the procedure.

14.18 Special Audit of Classification Society:

Classification societies should maintain the highest performance standards. Some inconsistencies are noted in statutory certificates issued by the Classification Society 'Registro Italiano Navale' (RINA), these statutory certificates were issued by RINA on behalf of the Flag State (St. Kitts and Nevis). In this regard following is recommended:

- a. Classification society RINA be issued a warning notice and be advised that due diligence should be exercised when performing duties on behalf of the Flag State.
- b. Special Audit of RINA Classification society be got conducted and their performance standard monitored / reviewed by DGS.