STATUS OF COMPLIANCE OF EC CONDITIONS

- **Installation:** Baghjan - STF crude Oil Pipeline & Gas Transmission pipeline from Baghjan to CGGS & OTP near W/50.
- **Period:** 01/10/2025 to 31/03/2026
- **EC No:** J-11011/463/2008-I A II(I) DATED 16.01.2012

Specific Condition		
Sl No.	**EC Condition**	**Compliance status/Remark**
i.	All the specific conditions and general conditions specified in the earlier environmental clearance letter accorded vide Ministry's letter no. 11011/463/2008-IA-II dated 12th January, 2011 shall be implemented.	**Complied**
ii.	Prior clearance shall be obtained from the Standing Committee of the National Board for Wildlife regarding Padumani Borajan wildlife sanctuary, Borajan wildlife sanctuary and Dibru-Saikhowa National park and no work at the site shall be started without prior permission.	**Complied.** A copy of NBWL application and its approval from the standing committee is attached as **annexure 1**
iii.	The M/s OIL shall ensure restoration of the Right of Way to preconstruction level as soon as construction activity completed. To ensure prevention of soil erosion, backfilled areas shall be properly compacted.	Complied
iv.	Ambient air quality shall be monitored near the closest human settlements as per the National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 for PM_{10}, $PM_{2.5}$, SO_2, NO_x, CO, CH_4, HC, Non-methane HC etc.	**Complied** Environment Monitoring is carried out regularly by MoEF&CC/NABL approved laboratory. All the results are observed to be within norms. Ambient air quality report for the compliance period Oct 25 to Mar 26 is attached as **Annexure -2**
v.	The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate noise pollution.	**Complied** Following Noise Monitoring measures are adopted at the construction site 1. DG sets fitted with Acoustic Enclosures. 2.Vehicular movement with safe limiting Speed. 3. Regular machinery maintenance. 4. Regular noise monitoring and DG set reports are attached as **Annexure 3**

vi.	The design, material of construction, assembly, inspection, testing and safety aspects of operation and maintenance of pipeline and transporting the natural gas shall be governed by ASME/ANSI B 31.8/B31.4 and OISO standard 141.	Complied
vii.	Annual safety audit shall be carried out for the initial three years by an independent agency and report submitted to this Ministry for ensuring the strict compliance of safety regulations on operation and maintenance.	**Complied** OISD report of Baghjan EPS is attached as **annexure 4**
viii.	The construction of pipeline particularly at the river and stream crossing shall be done during dry seasons to avoid disturbance of breeding seasons and soil erosion. The riverbed, embankments and / dykes shall be restored adequately after installation of crossings.	Complied Pipeline does not pass through any river.
ix.	Pipeline wall thickness and minimum depth of burial at river crossings and casings at rails, major road crossings shall be in conformity with ANSI/ASME requirements.	Complied. Pipeline does not pass through any river.
x.	The company shall follow horizontal drilling technique for laying of pipeline while passing through major rivers.	Agreed to comply. As on date the pipeline does not pass through any river.
xi.	The project authorities shall install SCADA system with dedicated optical fibre 'based telecommunication link for safe operation of pipeline and Leak Detection System. Additional sectionalizing valves in the residential areas and sensitive installations shall be provided to prevent the amount of gas going to the atmosphere in the event of pipeline failure. Intelligent pigging facility shall be provided for the entire pipeline system for internal corrosion monitoring. Coating and impressed current cathodic protection system shall be provided to prevent external corrosion.	Complied SCADA system has been installed at the installation to monitor the leak for safe operation of pipeline. Attached as **annexure 5**
xii.	The project authorities shall patrol and inspect the pipeline regularly for detection of faults as per OISD guidelines and continuous monitoring of pipeline operation by adopting non-destructive method(s) of testing as envisaged in the EMP. Pearson survey and continuous potential survey shall be carried out at regular intervals to ensure the adequacy of cathodic protection system.	**Complied** Our pipelines are integrated into a centralized **SCADA (Supervisory Control and Data Acquisition)** system, providing real-time monitoring of pressure and flow parameters. This allows for instantaneous leak detection and automatic shutdown in the event of any deviation from standard operating limits. **Attached as annexure 5**

xiii.	The fire water facilities at the terminal must be designed as per OISD-117 guidelines. However, for fighting prolonged fires, the company shall firm up a plan for assured water supply from near by ground water source/ surface water source. This must be complied before commissioning the project.	Complied
xiv.	All the recommendations mentioned in the risk assessment report shall be implemented.	Complied
xv.	All the issues raised during the public hearing/consultation meeting held on 8th July, 2011 shall be satisfactorily implemented.	Complied
xvi.	Good sanitation facility shall be provided during construction phase. Domestic sewage shall be disposed off through septic tank/ soak pit.	Complied. HSE department conducts periodic inspections to monitor the functionality and cleanliness of these facilities.
xvii.	Oil spillage prevention and mitigation scheme shall be prepared. In case of oil spillage/contamination, action plan shall be prepared to clean the site by adopting proven technology. The recyclable waste (oily sludge) and spent oil shall be disposed of to the authorized recyclers.	Complied. Oil spillage contingency plan is attached as **annexure 6**
viii.	Company shall prepare and circulate the environmental policy.	Complied Environment policy is attached as **annexure 7**
xix.	Company shall prepare operating manual in respect of all activities. It shall cover all safety & environment related issues and system. Measures to be taken for protection. One set of environmental manual shall be made available at the pipeline project site. Awareness shall be created at each level of the management. All the schedules and results of environmental monitoring shall be available at the project site office.	**Complied** A copy of safe operating procedure is attached as **annexure 8**.

General Condition		
Sl No.	**EC Condition**	**Compliance status/Remark**
i.	The project authorities must strictly adhere to the stipulations made by the Assam Pollution Control Board (APCB), State Government and any other statutory authority.	Complied

ii.	No further expansion or modification in the project shall be carried out without prior approval of the Ministry of Environment & Forests. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	Complied
iii.	The project authorities must strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous Chemicals Rules, 2000 as amended subsequently. Prior approvals from Chief Inspectorate of Factories, Chief Controller of Explosives, Fire Safety Inspectorate etc. must be obtained, wherever applicable.	Complied
iv.	The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (nighttime).	Complied Attached as annexure 3
v.	A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad / Municipal Corporation, Urban Local Body and the local NGO, if any, from whom suggestions / representations, if any, were received while processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent.	Complied
vi.	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MOEF, the respective Zonal Office of CPCB and the APCB. The criteria pollutant levels namely; PM_{10}, SO_2, NO_x, HC (Methane & Non-methane), CO (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	Complied Compliance status including monitored data is regularly uploaded on company's website and sent to concerned government authorities. Monitored data is also enclosed herewith.
vii.	The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MOEF, the respective Zonal Office of CPCB and the APCB. The Regional Office of this Ministry/ CPCB / APCB shall	Complied EC compliance report for the period April 2025 to Sept 2025 was submitted to Sub-RO, Guwahati, Zonal Office CPCB, Shillong and, Chairman - Pollution Control Board Assam vide L.No. **Ref. No.:HSE/E/43C-1/1481(A) dated 29.11.2025**. Also, copy of the EC and

	monitor the stipulated conditions.	Six-monthly compliance report are uploaded to OIL website under the link https://www.oil-india.com/environmental-compliance-reports
viii.	The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company alongwith the status of compliance of environmental conditions and shall also be sent to the respective Regional Offices of the MOEF by e-mail.	**Complied** Environment Statement (Form – V) for the F.Y. 2025-26 was submitted to Pollution Control Board, Assam **Ref. No.: HSE/E/21(B)/928 dated: 01.09.2025** Attached as **annexure C.**
ix.	The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the APCB and may also be seen at Website of the Ministry of Environment and Forests at http:/envfor.nic.in. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the Regional office.	**Complied** Compliance status including monitored data is regularly uploaded on company's website and sent to concerned government authorities. Monitored data is also enclosed herewith.
x.	Project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	**Complied**

Annexure 1

OIL INDIA LIMITED
(A GOVERNMENT OF INDIA ENTERPRISE)
DULIAJAN-786 602
DIST. DIBRUGARH
ASSAM, INDIA

TEL : (0374)- 2803292 / 2800517
2800422 / 2804755
FAX : 0374-2801680
GRAM : OIL INDIA DULIAJAN
TELEX : 0288-249 DULO IN
E-mail : [illegible]
CABLE : OILINDIA

Ref. PDNO:O:2/10/1.00-563

Date: 23.09.2011

DIVISIONAL FOREST OFFICER
TINSUKIA WILD LIFE DIVISION
TINSUKIA

Sub: Proposal for setting up new projects by M/s Oil India Ltd (OIL) in Tinsukia & Dibrugarh Districts

Sir,

We refer to the discussion our Shri BK Bajaj, DGM (Prod-Oil) had with you on 05.09.2011 in your office chamber in respect of OIL's proposal for setting up new projects in Tinsukia and Dibrugarh Districts of Assam. The seven projects which fall within 10 km radius of wildlife sanctuaries/ National Park and which need clearance from wild life angle including clearance from Standing Committee of the National Board of Wild Life regarding impact of the proposed projects on the Wild Life Sanctuaries and National Park are as under:

Sl no.	Area	Name of Project	Status of EC
I.	Tengakhat-Naharkatia-Jorajan Area	Secondary Tank Farm (STF) at Naoholia.	Public Hearing conducted on 07.07.2011 & Final EIA Report incorporating issues raised in the Public Hearing submitted to MoEF for grant of EC.
		Makum Bowser Unloading Station at Makum	EC granted
II.	Tinsukia- Dhola Area	Barekuri OCS	EC granted
		Baghjan OCS	EC granted
		Baghjan – STF crude oil pipe line (45 Km long)	Public Hearing conducted on 08.07.2011 & Final EIA Report incorporating issues raised in the Public Hearing submitted to MoEF for grant of EC.
		Baghjan-W/50 gas pipe line (37 Km long)	Same as above.
		Baghjan-Makum OCS crude oil pipe line (23 Km long)	Same as above.

2.0 In this regard the following documents are enclosed:

- One copy each of Final EIA Report for (i) Baghjan Pipeline project and (ii) Secondary Tank Farm (STF) Project.
- Map showing project locations with respect to National Park and Wild Life Sanctuaries in the scale of 1: 150000.

3.0 We shall be thankful if you kindly authenticate the above map which is to be submitted along with our proposal in the prescribed format for the necessary clearance from the National Board of Wild Life regarding impact of the proposed projects on the Wild Life Sanctuaries and National Park.

Thanking you,

Yours faithfully,
OIL INDIA LIMITED

(A. BURAGOHAIN)
GENERAL MANAGER (PROD-OIL)
FOR RESIDENT CHIEF EXECUTIVE

OIL INDIA LIMITED
(A GOVERNMENT OF INDIA ENTERPRISE)
DULIAJAN-786 602
DIST. DIBRUGARH
ASSAM, INDIA

TEL : (0374)- 2803292 / 2800517
2800422 / 2804755
FAX : 0374-2801680
GRAM : OIL INDIA DULIAJAN
TELEX : 0288-249 DULO IN
E-mail : [redacted]
CABLE : OILINDIA

Ref. PDNO:O:2/10/1.0/616

Date: 27.10.2011

DIVISIONAL FOREST OFFICER
TINSUKIA WILD LIFE DIVISION
TINSUKIA

Sub: Proposal for setting up new projects by
M/s Oil India Ltd (OIL) in Tinsukia & Dibrugarh Districts

Sir,

We are writing further to our letter no. PDNO:O:2/10/1.00-563 dated 23.09.2011 on the above subject (copy enclosed). As the seven nos. of proposed projects mentioned in the above letter fall within 10 km radius of Wild Life Sanctuary/ National Park, we are required to obtain clearance from the Standing Committee of National Board of Wild Life.

2.0 Accordingly, we are hereby submitting the proposal in the prescribed proforma enclosing all the required documents. We shall be thankful if you kindly forward the same to the appropriate authority with your recommendation at your earliest.

Thanking you,

Yours faithfully,
OIL INDIA LIMITED

(A. BURAGOHAIN)
GENERAL MANAGER (PROD-OIL)
FOR **RESIDENT CHIEF EXECUTIVE**

महा प्रबंधक, उत्पादन (ऑयल)
General Manager, Prodn. (Oil)

Submitted at TSK/DFO
on 29/11/11

FORMS

(All documents to be submitted in triplicate and signed in Blue ink)

PART - I

Proposal for Investigation and Survey in the National Park / Sanctuary

(Details to be provided by the Applicant)

1. **Name of the Organization**: M/S OIL INDIA LIMITED

2. **Aims and Objectives of the Proposed Project**: Oil India Ltd. (OIL), a premier National Oil Company, is engaged in the business of exploration, production and transportation of crude oil and natural gas including production of LPG from its fields in Assam and Arunachal Pradesh. OIL is proposing to establish following new development projects in Tinsukia and Dibrugarh districts in Assam to handle additional hydrocarbon production, to maintain the quality of the same and to meet its commitment of supply of natural gas to its new consumer, namely, Brahmaputra Cracker & Polymer Limited (BCPL):

   I) Oil Collecting Station, Baghjan
   II) Oil Collecting Station, Barekuri
   III) Baghjan-Secondary Tank Farm Crude Oil Pipeline (length 45 km)
   IV) Baghjan-CGGS & OTP near W/50 Gas Pipeline (length 37 km)
   V) Baghjan-Makum OCS Crude Oil Pipeline (length 23 km)
   VI) Secondary Tank Farm (STF).
   VII) Bowser Unloading Station at Makum.

3. **Location and Map (1:150000 scale) of the area duly authenticated by the competent authority to be investigated/ surveyed**: The projects are located in the districts of Tinsukia and Dibrugarh in Assam. Maps in the scale 1:50000 and 1:150000 of the area duly authenticated by the competent authority is enclosed.

4. **Whether investigation/survey requires clearing of vegetation**: No

5. **If yes, please specify the extent (in Ha.)**

6. **Opinion of the Officer In Charge of the N.P./ WLS (Attach signed copy)**: Signed copy attached.

7. **Opinion of the Chief Wild Life Warden (Attach signed copy). The following be included in the opinion**: Signed copy attached.

   i) Brief history of the Protected Area
   ii) Current status of Wildlife
   iii) Current status of pressures on protected Areas.

iv) Projected impacts of projects on wildlife, habitat management and access/ use of resource by various stakeholders.

v) Contiguous wildlife areas which would benefit wildlife if added to National park/Sanctuary.

vi) Other areas in the State which have been recommended by State Government, Wildlife Institute of India, BNHS, SACON, IISC, IUCN or other expert body for inclusion in Protected Area network.

Signed

Project Head: GM(PROD-OIL)
Name: A.BURAGOHAIN
Organization: OIL INDIA LTD
DULIAJAN
(ASSAM)
महा प्रबंधक, उत्पादन (ऑयल)
General Manager, Prodn. (Oil)

Signed

The Officer In Charge of the N.P./ WLS
Office Seal

Divisional Forest Officer
Tinsukia Wildlife Division
Tinsukia

Signed

The CWLW
Office Seal

Date of submission to Govt. of India by the CWLW --

PART-II

(To be filled in by the Applicant)

1 **Project details:**

(i) **Copy of the Investigation and Survey report:** Attached

(The report should include the dates of survey and the names of the investigators, surveyors and all officials of the concerned NP/ WLS who remained present during the period.)

(ii) **Self contained and factual project report for which NP/WLS area is required:** Copies of Project Reports are enclosed.

(Enclose copy of the Project Appraisal document)

(iii) **Map (Duly authenticated by the Divisional / District Head of the Department dealing with Forests and Wild Life) on a scale of 1: 150000 & 1:50000 showing the boundaries of the NP/WLS, delineating the area in question in red color):** Copies of Map showing the boundaries of the NP/WLS and duly authenticated by Divisional Forest Officer, Wild Life Division, Tinsukia in the scale of 1:50000 and 1:150000 are enclosed.

(iv) Self contained and factual report of at least two alternatives considered by the project authorities along with technical and financial justification for opting national park/ sanctuary area. N.A.

(v) Copy of the Bio diversity Impact Assessment report in case the proposal involves diversion of more than 50 ha. NP/WLS area. N.A.

2 **Location of the project/Scheme:**

(i) State/Union Territory : Assam
(ii) District : Tinsukia and Dibrugarh
(iii) Name of the National Park/ Sanctuary: The projects are located outside the forest area and within 10 km area of Dibru-Saikhowa National Park, Bherjan Wild Life Sanctuary, Borjan Wild Life Sanctuary and Padumoni Wild Life Sanctuary.

3 Details of the area required (in Hectares only) : Forest land not required as the Projects are located outside National park/ Wild Life Sanctuary.
(Provide break up of the land use under the project e.g., construction of dam, submergence, housing for staff, road etc)

4 Details of displacement of people, if any, due to the project : Nil

(i) Total number of families involved in displacement: Nil
(ii) Number of Scheduled Caste/Schedule Tribe families involved in displacement: Nil
(iii) Detailed rehabilitation plan: N.A.

5. Any other information relevant to the proposal but not covered in any of the columns above:

Signed by

Project Head: GENERAL MANAGER (PROD-OIL)
Name : A. BURAGOHAIN
Organization: OIL INDIA LIMITED, DULIAJAN, ASSAM

महा प्रबंधक, उत्पादन (ऑयल)
General Manager, Prodn. (Oil)

Date of submission to the Head of the National Park / Sanctuary:

PART III

(To be completed by the Officer- in- Charge of the National Park/Sanctuary completed and submitted to the Chief Wildlife Warden of officer authorized by him in this behalf within 30 days of the receipt of PART-III)

1. Date of receipt of the PART-II:
2. Total Area (Ha.) of National Park/Sanctuary: ***34000 Ha.***
3. Total Area (Ha.) diverted from the NP/WLS so far for development purposes: ***0 Ha.***
4. List the past projects and the area (Ha.) diverted : ***NA***

   Name of the Project Area diverted Year of diversion
5. Positive impacts due to the diversion of area for the project referred to in column 4 above: ***NA***

   Name of the Project/s Positive impact Scientific Basis of Assessment
6. Negative impact/s due to the diversion of area for the projects referred to in column 4 above: ***NA***

   Name of the Project/s Negative impact Scientific Basis of Assessment
7. Management plan Period: ***2011-12 to 2015-16***
8. List Management action taken/proposed to be taken in the whole block/Zone in which the proposed area is located:

   The proposed area is located if the buffer zone of Dibru Saikhowa National Park. There are no specific prescriptions' for the proposed area but prescriptions for the buffer zone in general can be visualized in chapter 8 & 9 of the management plan submitted herewith.
9. Type of forest in which the proposed area falls: ***Non forest area***
10. Location of the proposed area w.r.t. the critical/intensive wildlife management areas/wildlife habitats: ***Please see enclosed map.***
11. List the likely POSITIVE AND NEGATIVE impact of the proposed project giving scientific and technical justification for each impact: ***Please see annexure -I***
12. Provide COMPREHENSIVE details of the impact of the proposal in terms of Sections 29 and/ or section 35(6) of the wildlife (Protection) Act, 1972 as the case may be: ***The proposed area lies outside the National Park boundary as well as outside the Wildlife Sanctuary area.***
13. Whether the project authorities have ever committed violation of the Wildlife (Protection) Act,1972 or Forest Conservation Act,1980. If yes, provide the EXHAUSTIVE details of the offence and the present status of the case: ***No***
14. Have you examined the Project Appraisal document and the alternatives as provided in PART-II: *Yes*

15. Have you examined the Bio diversity impact Assessment Report: ***NA; as there is no diversion of National Park/Wildlife Sanctuary area.***
16. If Yes, please give your comments of the recommendations given in the report: ***NA***
17. Dates and duration of your field visits to the proposed site: ***30th September 2011; entire day***
18. Do you agree that the present proposal of diversion of NP/WLS area is the best or only option and is viable: ***NA as there is no diversion of National Park/Wildlife Sanctuary area.***
19. Any other information that you would bring to the notice of the State Board, National Board of its Committee that may be relevant and assist in decision making: ***No***
20. Do you recommend the project: ***Project may be recommended subject to user Agency adhering to all precautions & recommendations proposed***

Signed by

The officer in Charge of the NP/WLS

Official Seal

Divisional Forest Officer
Tinsukia Wildlife Division
Tinsukia

Date of Submission to the Chief Wildlife Warden of any of the officer authorized by him in this regard.

Main threat perception:

- *Migratory patterns of avifauna may be affected if ambient air quality conditions are altered due to the said activities.*

To monitor these, the following measures need to be taken up for effective prevention of any untoward incident.

- Time window for carrying out the activities shall be restricted and will be from April to September to avoid overlap with movement of migratory birds.
- Establishment of an ambient air quality monitoring station at Kolomi camp prior to commencement of any activity for keeping a tab on adverse changes.
- Funding support for regular monitoring of water quality. This may be taken up through the Wildlife Areas Welfare and Development trust by signing a memorandum of understanding.

With regards to the Baghjan-STF, Baghjan- well 50 & Baghjan-Makum pipeline, an analysis of imagery and data has shown that these will pass through the Maguri- Motapung wetland complex which is in the immediate vicinity of DNSP. This is an important refuge to a host of migratory bird during winter and as a matter of fact in November 2008, the lesser white Fronted goose (*Anser erythropus)* a migrant from Scandinavian countries was sighted in the area after a gap of 40 years of being located in Kaziranga way back in 1968. The Maguri-Motapung complex has been proposed as a Conservation Reserve vide this office letter no. A-TWL/G-87/2009 dated 4/11/2009. The site is around 1.5 to 2 kms up stream of the main Maguri-Motapung beel whose values have been highlighted above. While the entire complex lies in revenue area, the conservation perspective demands safeguards to be followed to prevent any untoward incident in the future.

Main threat perception

- *Oil leakage from pipelines which can assume alarming proportions as mentioned in the EIA report-* ***"Many thousand litres can be lost in a few minutes from a major leakage"***
- *Sabotage by miscreants for pilfering oil as the area is prone to law and order problems.*
- *Rapid spread of an oil leak may render the wetland complex redundant as a water fowl habitat.*

To prevent such happenings, the following safeguards need to be complied with.

- Only horizontal directional drilling (HDD) shall be followed and that too at a scouring depth of 5 metres below bedrock.
- A walkway over the water body for round the clock patrolling by security personnel drawn from OIL itself.
- Installation of isolation valves at either end of the water body. Since, the width of the water body is 70 meters as per details provided by OIL, this measure has to be strictly complied with as the main beel is just 1.5-2 kms away.
- Supervisory monitoring committee comprising members from District Administration local non-government organization, State Pollution Control Board and the office of the undersigned.

- Erection of two security watch towers of suitable height on either side of the water body prior to drilling activity.
- Funding support for water quality monitoring as envisaged above.
- Provision of vehicle with driver and POL prior to any activity, to the office of the undersigned for monitoring of the said area as any leak potentially can damage other surrounding areas especially Dibru Saikhowa National Park which fall under the jurisdiction of this Division. This step is also required to monitor compliance by the user agency.
- Time window for HDD and other ancillary activity will be from April to September only. Commencing October to march, no activity will be undertaken as this coincides with movement of migratory avifauna.

The Baghjan-STE & Baghjan-well 50 pipelines again pass well within 10 kms of the Borajan segment of Borajan-Bherjan-Padumoni Wildlife Sanctuary. This area has tremendous value as a site for primates and lesser fauna, especially butterflies. Barring the Golden langur, all other species of primates found in Assam have been documented here. 109 species of butterflies have been recorded out of which five have been stated to be 'Rare' having restricted distribution. Being a small area harbouring fauna, which is highly susceptible to changes in the environment, any sort of human induced disturbance will have a consequent bearing on their numbers mitigation measures are hence, a must.

Since, the eco sensitive zone of BBPWLS has not yet been notified, the Supreme Court guideline of a 10 km ceiling has to be adopted as per law. However, pragmatism demands an understanding of the ecological dynamics of the said protected area. The entire sanctuary is 7.2 sq kms in area and is constituted of 3 disjunct segments. 2 of these segments are 1.06 (Bherjan) and 1.76 (Padumoni) sq.km in area while the third is 4.39 (Borajan). With ecological values that are limited to lesser fauna and primate species, having an eco-sensitive zone to the extent of 10 kms does not make conservation sense. However, this office has proposed a reduced eco sensitive zone (which has not been put up to higher authority yet) and has been framed keeping in mind local species' ecological behaviour. It is pertinent to mention that the proposed pipelines will traverse even this reduced area, in case of the Borajan segment.

Main threat Perception

- *Ambient air quality may result out of construction activity there by altering micro climate especially for lesser fauna.*

Measures to be adopted to prevent any untoward effects are:

- To prevent any untoward spillage/leakage due to extraneous factors, safeguards in the form of isolation values at the points where the pipeline enters the proposed reduced eco sensitive zone need to be installed.
- Establishment of an air quality monitoring station at Borajan camp prior to commencement of any activity is a must to prevent any future mishaps.

DIVISIONAL FOREST OFFICER
TINSUKIA WILDLIFE DIVISION

PART -IV

(To be completed by the Chief Wild Life Warden within 15 days of the receipt of PART – II and III)

1 Date of RECEIPT of PART II and III by the Chief Wild Life Warden or the officer authorized by him in this regard

2 Do you agree with the information and recommendations provided by the Officer – in – Charge in PART – III

3 If not, please provide the reasons

4 Have you visited the site yourself and held discussions with the applicant.

5 Do you agree that the present proposal for permitting use of NP/WLS area is the best option or only option and is viable.

5 Please provide specific comments w.r.t. Section 29 of the Wild Life (Protection) Act, 1972

6 Any other information that you would bring to the notice of the State Board, National Board or its Committee that may be relevant and assist in decision making

7 Do you recommend the project.

(Please provide full justification to support your recommendations)

8 Conditions, if any, to be ensured in the interest of wildlife for allowing use of the area.

Signed by

The Chief Wild Life Warden
Name
State
Official Seal

Date of submission to the State Government

PART -V

(To be completed by the Department in Charge of Forestry and Wild Life in consultation with the State Board for Wild Life within 30 days of the receipt of PART – II, III and IV)

1 Date of RECEIPT of PART II, III and IV by the Department

2 Do you agree with the recommendation/s of the Chief Wild Life Warden

3 If not, please provide the reasons.

4 Did you provide PART II, III, and IV to the members of the State Board for Wild Life

5 Attach copy of the opinion of the State Board for Wild Life

6 Give details of the recommendations of the State Government

Signed by

The Principal Secretary
Name
State
Official Seal

Date of submission to the Central Government

AB
Pl. make two copies
one copy to be handed over
to Sri R. Dutta, Addl
HSE office
GM(PP)

PRODUCTION PROJECT DEPTT.
11/12/14
836
O.I.L. DULIAJAN

GOVERNMENT OF ASSAM
OFFICE OF THE PRINCIPAL CHIEF CONSERVATOR OF FORESTS:: WILDLIFE::
BASISTHA:: GUWAHATI-29

No.WL/FG.35/Standing Committee NBWL dt: 09.12.2014

From: Sri R.P. Agarwalla, IFS,
Principal Chief Conservator of Forests,
Wildlife & CWLW, Assam.

Tele: (Off) 0361- 2306042
Fax - 2306100
Email: pccf.wl.assam@gmail.com,
rajendra.agarwalla@gmail.com

To,
The General Manger (Production Project)
Oil India Limited
Duliajan

Sub:- Minutes of the 31st meeting of Standing Committee of NBWL.

Sir,

I am enclosing herewith a copy of the Minutes of the 31st meeting of Standing Committee of NBWL received from the Govt. of India, Ministry of Environment, Forests & Climate Change Wildlife Division's letter F. No. 6-47/2014 WL(31st Meeting), dt: 03.12.2014 for your needful action.

Enclosed: As above.

Yours faithfully,

Agarwalla 9/12/2014

(R.P. Agarwalla, IFS)
Principal Chief Conservator of Forests,
Wildlife, Assam.

Copy to the Divisional Forest Officer, Tinsukia Wildlife Division, Tinsukia for information and take necessary action. The photocopies are hereby enclosed with received from Govt. of India (NTCA) vide letter No. F. No.6-47/2014 WL(31st Meeting) dtd : 03.12.2014

Principal Chief Conservator of Forests,
Wildlife, Assam.

(100)

F.No.6-47/2014 WL (31st Meeting)
Government of India
Ministry of Environment, Forests & Climate Change
Wildlife Division
****

6th Floor, Vayu Wing
Indira Paryavaran Bhawan
Jor Bag Road, Aliganj
New Delhi-110003
Dated: 03.12.2014.

To

The Principal Secretary (Forests),
Department of Forests,
Government of Assam,
Rehabai, Guwahati-781001.

Sub: Minutes of the 31st Meeting of Standing Committee of NBWL.

Sir,

During the 31st Meeting of Standing Committee of NBWL held on 12th-13th August 2014 under the Chairmanship of Hon'ble Minister of State (Independent Charge) for Environment, Forests and Climate Change, the following proposals pertaining to your State were considered. The relevant portion of the decision taken in respect of the proposals is reproduced below:

"1. ***Proposal for Oil India Ltd. for use of 304.15 ha non-forest land falling within 10 km from the boundary of Dibru-Saikhowa National Park and Bherjan-Borajan-Padumoni Wildlife Sanctuary for expansion of gas field development in Tengakhat-Naharkotia-Jorajan area, Tinsukia-Dhola area and Doom dooma-Pengeri area in Assam (PMG Case).***

The Member Secretary informed the Committee that during the previous meeting of the Standing Committee, it was decided that Ms. Prerna Bindra and Dr M.D. Madhusudan would undertake site inspection with respect to this proposal along with the another proposal for use of 114.267 ha of non-forestland falling within 10 kms from the boundary of Dibru-Saikhowa National Park and Borjan-Bherjan Padumani Wildlife Sanctuary for laying of crude oil pipeline etc by Oil India Ltd., Assam, which was already recommended. He added that the site inspection was conducted and the report was uploaded on the official website of MOEF&CC and was also circulated to the members. He informed that the site inspection team had recommended the proposals.

Dr. R. Sukumar was of the opinion that in many cases, the project proponents place a "fait accompli" cases for consideration of the Standing Committee, which should be discouraged.

As the site inspection team had recommended the proposals, the Standing Committee decided to recommend the proposal.

Contd.../2

5. ***Proposal for strengthening the existing (embankment) from Moriaholla to Diffalupathar to avoid any beach resulting flash flood in eastern range of Kaziranga NP, Assam.***

The Member Secretary briefed the Committee regarding the proposal. The Chief Wildlife Warden, Assam mentioned that the proposal was for strengthening the existing embankment from Moriaholla to Diffalupathar to avoid any breach resulting flash flood in eastern range of Kaziranga National Park and also in order to control flash floods inside the Park.

After discussion, the Standing Committee decided to recommend the proposal as it would help in controlling flash floods inside Kaziranga National Park. The Committee also decided that the following conditions, as stipulated by the State Chief Wildlife Warden be also complied with:

i. *Entire work shall be executed under close supervision of park authorities.*
ii. *Top of the dyke shall be graveled.*
iii. *Three new sluice gates shall be constructed in order to regulate flow of water across the dyke.*
iv. *All the sluice gates shall be operated during high flood as well lean season jointly by the water Resources Department and Kaziranga National Park officials.*
v. *Material for porcupine works shall be transported through river route only"*

The above recommendation(s) are subject to the existing directives of Hon'ble Supreme Court and provisions of Forests (Conservation) Act, 1980.

Yours faithfully

R. Rajasekhar 03/12/14

(Rajasekhar Ratti)
Scientist 'C'/Deputy Director (WL)

Copy to:

1. The Chief Wildlife Warden, Government of Assam, Guwahati-791111.
2. The Addl.Pr.Chief Conservator of Forests, Ministry of Environment & Forests, Regional Office (NEZ) Upland Road, Laitumkhrah, Shillong-793003, Meghalaya.
3. The Chief Manager, Oil India Ltd, (A Government of India Enterprise), Plot No. 19, Sector 16A, Noida-201301.
4. The General Manager, National Highways Authority of India (Ministry of Shipping, Road Transport and Highways) G-5 & 6, Sector-10, Dwarka, New Delhi-110075.
5. M/s Hindustan Oil Corporation Ltd., Guwahati, Assam.
6. The Joint Secretary, I.A. Division, MoEF & CC.
7. The Inspector General of Forests, FC Division, MoEF & CC.

R. Rajasekhar 03/12/14

(Rajasekhar Ratti)
Scientist 'C'/Deputy Director (WL)

Ambient Air Quality Monitoring Report

Name & Address of the Customer :	Report No. : MSK/2025-26/02165
	Report Date : 09.01.2026
"M/s OIL INDIA LIMITED",	Sample Description : Ambient Air
Duliajan, Dibrugarh, Assam-786602	Sample Number : **MSKGL/ED/2025-26/12/02022**
	Sampling Location : EPS BAGHJAN
	Instrument ID : RDS 1317-DTK-2008/ FPS 92-DTL-2021
Ref. No.:W.O. NO.- 8129283 of Contract No. 6119277	GPS Reading : N 27°51'38", E 95°42'53"

Date of Sampling	Sample Received Date	Analysis Start Date	Analysis Complete Date
29.12.2025	01.01.2026	01.01.2026	08.01.2026

Enviromental Conditions During Sampling & Transport Condition :Temperature : 23°C, Rain fall : No

Analysis Result

Sl. No.	Test Parameter	Method	Unit	Results	CPCB Limit
1.	Particulate Matter (PM_{10})	IS : 5182 (Part-23)-2006	(µg/m3)	65.9	100
2.	*Particulate Matter ($PM_{2.5}$)*	*IS : 5182 (Part-24)*	*(µg/m3)*	38.3	*60*
3.	Sulphur Dioxide (SO_2)	IS : 5182 (Part-2)-2001	(µg/m3)	6.8	80
4.	Nitrogen Dioxide (NO_2)	IS : 5182 (Part-6)-2006	(µg/m3)	20.3	80
5.	Carbon Monoxide (CO)	IS 5182 : (Part-10) :1999	(mg/m3)	0.62	2
6.	Ozone (O_3)	IS:5182 (Part-IX)-1974 Reaffirmed-2019	(µg/m3)	<20.0	180
7.	Ammonia (NH_3)	IS 5182 (Part 25) : 2018	(µg/m3)	<20.0	400
8.	Lead (Pb)	USEPA IO-3.4	(µg/m3)	<0.01	1
9.	Nickel (Ni)	USEPA IO-3.4	(ng/m3)	<5.0	20
10.	Arsenic (As)	USEPA IO-3.4	(ng/m3)	<1.0	6
11.	*Benzene (C_6H_6)*	*IS 5182 : (Part 11) :2006*	*(µg/m3)*	<4.2	*5*
12.	Benzo(a)Pyrene (BaP)	IS 5182 : (Part 12) :2004	(ng/m3)	<0.5	1
13.	Mercury (Hg)	USEPA IO-5.0	(µg/m3)	<0.002	...
14.	Methane (Hydrocarbon)	IS 5182 : (Part 17)	ppm	1.99	...
15.	Non-methane (Hydrocarbon)	IS 5182 : (Part 17)	ppm	<0.5	...
16.	Total Hydrocarbon	IS 5182 : (Part 17)	ppm	1.99	...
17.	Volatile Organic Compounds (VOC)	IS 5182 : (PART-11):2006	(µg/m3)	<4.2	...

Limit as per CPCB notification, New Delhi, 18th Nov, 2009. for Ambient air quality

Analyzed By:

Signature :
Name : Mr. Dipankar Mazumdar
Designation. : Technical Manager

Prepared By:

Signature :
Name : Mr. Dipankar Das
Designation. : Office Assistant

Authorized Signatory
For Mitra S.K. Private Limited

Signature :
Name : Mr. Ravi Sankar Roy
Designation : Branch Manager

- ***The results relate only to the item(s) tested.***
- ***This Test Report shall not be reproduced except in full, without the permission of Mitra S.K. Private Limited.***
- ***Our Lab is Approved by NABL & MOEF, Lab Address :P-48 Udayan Industrial Estate,3 Pagladanga Road Kol-700015***

Approved By
Uttam Prodhan
Dy. CRS – R&D, OIL

STACK GAS MONITORING REPORT

Name & Address of the Customer			
"M/s OIL INDIA LIMITED" Duliajan, Dibrugarh, Assam-786602	Report No.	: MSK/2025-26/02217	
	Report Date	: 09.01.2026	
	Nature of Sample	: Stack Emission	
	Sample Mark	: EPS BAGHJAN	
	Sample Number	: MSKGL/ED/2025-26/12/02052	
	Instrument ID	: 135-H-19	
Ref. No.:W.O. NO.- 8129283 of Contract No. 6119277			
Date of Sampling	Sample Received Date	Analysis Start Date	Analysis Complete Date
29.12.2025	02.01.2026	02.01.2026	08.01.2026

ANALYSIS RESULT

A.	**General information about stack :**	:		
1.	Stack connected to	: CODP-2		
2.	Emission due to	: NG		
3.	Material of construction of Stack	: MS		
4.	Shape of Stack	: Circular		
5.	Whether stack is provided with permanent platform & ladder	: Yes		
6.	DG capacity	**: 157 HP**		
B.	**Physical characteristics of stack :**			
1.	Height of the stack from ground level	: 2.4384 m		
2.	Diameter of the stack at sampling point	: 0.1016 m		
3.	Area of Stack	: 0.00810 m2		
C.	**Analysis/Characteristic of stack:** 1. Fuel used : HSD			
D.	**Result of sampling & analysis of gaseous emission**	**Result**	**Limit as per CPCB**	**Method**
1.	Temperature of emission (°C)	147	...	USEPA Part 2, 25.09.1996
2.	Barometric Pressure (mm of Hg)	762.0	...	USEPA Part 2, 25.09.1996
3.	Velocity of gas (m/sec.)	19.20	...	USEPA Part 2, 25.09.1996
4.	Quantity of Gas Flow (Nm3/hr)	395	...	USEPA Part 2, 25.09.1996
5.	Concentration of Oxygen (%v/v)	13.8	...	IS:13270 :1992 Reaff, 2014
6.	Concentration of Carbon Monoxide (g/kW-hr)	0.113	**≤ 3.5**	IS:13270 :1992 Reaff, 2014
7.	Concentration of Carbon Dioxide (%v/v)	5.6	...	IS:13270 :1992 Reaff, 2014
8.	Concentration of Sulphur Dioxide (mg/Nm3)	23.7	...	USEPA-29, 25/06/1996
9.	Concentration of Nitrogen Oxide & Hydrocarbons (g/kW-hr)	0.162	**≤ 4.7**	USEPA Part-7, 12/03/1996& USEPA 18 -25.09.1996
10.	Concentration of Lead (mg/Nm3)	<0.005	...	USEPA-29, 25/06/1996
11.	Concentration of Particulate matter (g/kW-hr)	0.086	**≤ 0.3**	USEPA Part-17, 16/08/1996
12.	Smoke Limit (Light Absorption Coefficient, m-1)	0.019K	**≤ 0.7**	AS PER CPCB
E.	**Pollution control device:** Details of pollution control devices attached with the stack : Nil			**Remarks**: Nil

Analyzed By:

Signature :
Name : Mr. Dipankar Mazumdar
Designation. : Technical Manager

Prepared By:

Signature :
Name : Mr. Dipankar Das
Designation. : Office Assistant

Authorized Signatory
For Mitra S.K. Private Limited

Signature : Rsroy
Name : Mr.Ravi Shankar Roy
Designation : Branch Manager

- *The results relate only to the item(s) tested.*
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- ***Our Lab is Approved by NABL & MOEF, Lab Address :P-48 Udayan Industrial Estate,3 Pagladanga Road Kol-700015***

Approved By
Uttam Prodhan
Dy. CRS – R&D, OIL

Mitra S. K. Private Limited

MSK TESTING • INSPECTION

STACK GAS MONITORING REPORT

Name & Address of the Customer			
"M/s OIL INDIA LIMITED" Duliajan, Dibrugarh, Assam-786602	Report No.	: MSK/2025-26/02218	
	Report Date	: 09.01.2026	
	Nature of Sample	: Stack Emission	
	Sample Mark	: **EPS BAGHJAN**	
	Sample Number	: MSKGL/ED/2025-26/12/02053	
	Instrument ID	: 135-H-19	
Ref. No.:W.O. NO.- 8129283 of Contract No. 6119277			

Date of Sampling	Sample Received Date	Analysis Start Date	Analysis Complete Date
29.12.2025	02.01.2026	02.01.2026	08.01.2026

ANALYSIS RESULT

A.	**General information about stack :**	:		
1.	Stack connected to	: DRENCHING PUMP-1		
2.	Emission due to	: HSD		
3.	Material of construction of Stack	: MS		
4.	Shape of Stack	: Circular		
5.	Whether stack is provided with permanent platform & ladder	: Yes		
6.	DG capacity	**: 310 HP**		
B.	**Physical characteristics of stack :**			
1.	Height of the stack from ground level	: 2.1336 m		
2.	Diameter of the stack at sampling point	: 0.1016 m		
3.	Area of Stack	: 0.00810 m2		
C.	**Analysis/Characteristic of stack:** 1. Fuel used : HSD			
D.	**Result of sampling & analysis of gaseous emission**	**Result**	**Limit as per CPCB**	**Method**
1.	Temperature of emission (°C)	132	...	USEPA Part 2, 25.09.1996
2.	Barometric Pressure (mm of Hg)	762.0	...	USEPA Part 2, 25.09.1996
3.	Velocity of gas (m/sec.)	18.03	...	USEPA Part 2, 25.09.1996
4.	Quantity of Gas Flow (Nm3/hr)	385	...	USEPA Part 2, 25.09.1996
5.	Concentration of Oxygen (%v/v)	13.0	...	IS:13270 :1992 Reaff, 2014
6.	Concentration of Carbon Monoxide (g/kW-hr)	0.241	**≤ 3.5**	IS:13270 :1992 Reaff, 2014
7.	Concentration of Carbon Dioxide (%v/v)	5.4	...	IS:13270 :1992 Reaff, 2014
8.	Concentration of Sulphur Dioxide (mg/Nm3)	26.3	...	USEPA-29, 25/06/1996
9.	Concentration of Nitrogen Oxide & Hydrocarbons (g/kW-hr)	0.318	**≤ 4.7**	USEPA Part-7, 12/03/1996& USEPA 18 -25.09.1996
10.	Concentration of Lead (mg/Nm3)	<0.005	...	USEPA-29, 25/06/1996
11.	Concentration of Particulate matter (g/kW-hr)	0.124	**≤ 0.3**	USEPA Part-17, 16/08/1996
12.	Smoke Limit (Light Absorption Coefficient, m-1)	0.068K	≤ 0.7	AS PER CPCB
E.	**Pollution control device:** Details of pollution control devices attached with the stack : Nil			**Remarks**: Nil

Analyzed By:

Signature :
Name : Mr. Dipankar Mazumdar
Designation. : Technical Manager

Prepared By:

Signature :
Name : Mr. Dipankar Das
Designation. : Office Assistant

Authorized Signatory
For Mitra S.K. Private Limited

Signature :
Name : Mr.Ravi Shankar Roy
Designation : Branch Manager

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Head Office: Shrachi Centre (5th floor), 74B, A.J.C. Bose Road, Kolkata - 700 016. West Bengal, India.
Tel. : 91 33 40143000 / 22650006 / 22650007 Fax : 91 33 22650008
Email : info@mitrask.com. Website: www.mitrask.com

Approved By
Uttam Prodhan
Dy. CRS – R&D, OIL

STACK GAS MONITORING REPORT

Name & Address of the Customer		
"M/s OIL INDIA LIMITED" Duliajan, Dibrugarh, Assam-786602	Report No.	: MSK/2025-26/02219
	Report Date	: 09.01.2026
	Nature of Sample	: Stack Emission
	Sample Mark	: **EPS BAGHJAN**
	Sample Number	: MSKGL/ED/2025-26/12/02054
	Instrument ID	: 135-H-19

Ref. No.:W.O. NO.- 8129283 of Contract No. 6119277

Date of Sampling	Sample Received Date	Analysis Start Date	Analysis Complete Date
29.12.2025	02.01.2026	02.01.2026	08.01.2026

ANALYSIS RESULT

A.	**General information about stack :**	:
1.	Stack connected to	: DRENCHING PUMP-2
2.	Emission due to	: HSD
3.	Material of construction of Stack	: MS
4.	Shape of Stack	: Circular
5.	Whether stack is provided with permanent platform & ladder	: Yes
6.	DG capacity	**: 255 HP**
B.	**Physical characteristics of stack :**	
1.	Height of the stack from ground level	: 2.1336 m
2.	Diameter of the stack at sampling point	: 0.1016 m
3.	Area of Stack	: 0.00810 m2
C.	**Analysis/Characteristic of stack:** 1. Fuel used : HSD	

D.	**Result of sampling & analysis of gaseous emission**	**Result**	**Limit as per CPCB**	**Method**
1.	Temperature of emission (°C)	136	...	USEPA Part 2, 25.09.1996
2.	Barometric Pressure (mm of Hg)	762.0	...	USEPA Part 2, 25.09.1996
3.	Velocity of gas (m/sec.)	18.53	...	USEPA Part 2, 25.09.1996
4.	Quantity of Gas Flow (Nm3/hr)	392	...	USEPA Part 2, 25.09.1996
5.	Concentration of Oxygen (%v/v)	13.6	...	IS:13270 :1992 Reaff, 2014
6.	Concentration of Carbon Monoxide (g/kW-hr)	0.210	**≤ 3.5**	IS:13270 :1992 Reaff, 2014
7.	Concentration of Carbon Dioxide (%v/v)	6.0	...	IS:13270 :1992 Reaff, 2014
8.	Concentration of Sulphur Dioxide (mg/Nm3)	24.7	...	USEPA-29, 25/06/1996
9.	Concentration of Nitrogen Oxide & Hydrocarbons (g/kW-hr)	0.266	**≤ 4.7**	USEPA Part-7, 12/03/1996& USEPA 18 -25.09.1996
10.	Concentration of Lead (mg/Nm3)	<0.005	...	USEPA-29, 25/06/1996
11.	Concentration of Particulate matter (g/kW-hr)	0.115	**≤ 0.3**	USEPA Part-17, 16/08/1996
12.	Smoke Limit (Light Absorption Coefficient, m-1)	0.086K	**≤ 0.7**	AS PER CPCB

E. **Pollution control device:**
Details of pollution control devices attached with the stack : Nil

Remarks: Nil

Analyzed By:

Signature :
Name : Mr. Dipankar Mazumdar
Designation. : Technical Manager

Prepared By:

Signature :
Name : Mr. Dipankar Das
Designation. : Office Assistant

Authorized Signatory
For**Mitra S.K. Private Limited**

Signature : RSroy
Name : Mr.Ravi Shankar Roy
Designation : Branch Manager

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Approved By
Uttam Prodhan
Dy. CRS – R&D, OIL

Mitra S. K. Private Limited

MSK TESTING • INSPECTION

STACK GAS MONITORING REPORT

Name & Address of the Customer		
"M/s OIL INDIA LIMITED" Duliajan, Dibrugarh, Assam-786602	Report No.	: MSK/2025-26/02220
	Report Date	: 09.01.2026
	Nature of Sample	: Stack Emission
	Sample Mark	: **EPS BAGHJAN**
	Sample Number	: MSKGL/ED/2025-26/12/02055
	Instrument ID	: 135-H-19

Ref. No.:W.O. NO.- 8129283 of Contract No. 6119277

Date of Sampling	Sample Received Date	Analysis Start Date	Analysis Complete Date
29.12.2025	02.01.2026	02.01.2026	08.01.2026

ANALYSIS RESULT

A.	**General information about stack :**	:
1.	Stack connected to	: GENSET-2
2.	Emission due to	: NG
3.	Material of construction of Stack	: MS
4.	Shape of Stack	: Circular
5.	Whether stack is provided with permanent platform & ladder	: Yes
6.	DG capacity	**: 250 KVA**
B.	**Physical characteristics of stack :**	
1.	Height of the stack from ground level	: 2.4384 m
2.	Diameter of the stack at sampling point	: 0.127 m
3.	Area of Stack	: 0.01270 m2
C.	**Analysis/Characteristic of stack:** 1. Fuel used : NG	

D.	**Result of sampling & analysis of gaseous emission**	**Result**	**Limit as per CPCB**	**Method**
1.	Temperature of emission (°C)	125	...	USEPA Part 2, 25.09.1996
2.	Barometric Pressure (mm of Hg)	762.0	...	USEPA Part 2, 25.09.1996
3.	Velocity of gas (m/sec.)	16.94	...	USEPA Part 2, 25.09.1996
4.	Quantity of Gas Flow (Nm3/hr)	577	...	USEPA Part 2, 25.09.1996
5.	Concentration of Oxygen (%v/v)	13.4	...	IS:13270 :1992 Reaff, 2014
6.	Concentration of Carbon Monoxide (g/kW-hr)	0.212	**≤ 3.5**	IS:13270 :1992 Reaff, 2014
7.	Concentration of Carbon Dioxide (%v/v)	5.2	...	IS:13270 :1992 Reaff, 2014
8.	Concentration of Sulphur Dioxide (mg/Nm3)	23.9	...	USEPA-29, 25/06/1996
9.	Concentration of Nitrogen Oxide & Hydrocarbons (g/kW-hr)	0.261	**≤ 4.7**	USEPA Part-7, 12/03/1996& USEPA 18 -25.09.1996
10.	Concentration of Lead (mg/Nm3)	<0.005	...	USEPA-29, 25/06/1996
11.	Concentration of Particulate matter (g/kW-hr)	0.114	**≤ 0.3**	USEPA Part-17, 16/08/1996
12.	Smoke Limit (Light Absorption Coefficient, m-1)	0.014K	**≤ 0.7**	AS PER CPCB

E. **Pollution control device:**
Details of pollution control devices attached with the stack : Nil

Remarks: Nil

Analyzed By:
Signature :
Name : Mr. Dipankar Mazumdar
Designation. : Technical Manager

Prepared By:
Signature :
Name : Mr. Dipankar Das
Designation. : Office Assistant

Authorized Signatory
For**Mitra S.K. Private Limited**
Signature :
Name : Mr.Ravi Shankar Roy
Designation : Branch Manager

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Head Office: Shrachi Centre (5th floor), 74B, A.J.C. Bose Road, Kolkata - 700 016. West Bengal, India.
Tel. : 91 33 40143000 / 22650006 / 22650007 Fax : 91 33 22650008
Email : info@mitrask.com. Website: www.mitrask.com

Approved By
Uttam Prodhan
Dy. CRS – R&D, OIL

NOISE LEVEL MEASUREMENT REPORT

LOCATION : EPS Baghjan

(Production Installation – OCS/EPS/QPS)

Date : 29.12.2025 Time : 10.00 AM

Sl. No.	Noise Level Measurement at		Measurement in dB(A)	Threshold limit value for Noise as per OISD-166		Recommendation
1	Control Room / Operator Room	Door Open	60	Duration per day(hours)	Sound Level (dBA)	
		Door Closed	57			
2	Middle of Group Area		66	8	90	
3	At the Entrance		62	6	92	
4	Security Hut		61	4	95	
5	Meter Shed		64	3	97	
6	Tank Area		61	2	100	
7	Air Compressor			1 - ½	102	
				1	105	
				½	110	
				¼ or less	115	

Sl. No.	Noise Level Measurement at	Noise level at source in dB(A)	At a distance from the shed In dB(A)												Near boundary of the installation in dB(A)	Remarks
			5 mtrs				10 mtrs				15 mtrs					
			North	South	East	West	North	South	East	West	North	South	East	West		
1	CODP	94	85	86	87	85	75	76	75	75					East – 59	
2	FWDP	86	77	78	75	77									West – 62	
3	Drenching pump	93	84	85	83	84	75	74	74	—					North – 61	
4	Emulsion Treater	66	60	61	60	60									South – 60	
5	Indirect Heater	65	59	60	60	61										
6	Chemical Dosing Pump	60	57	59	55	76										
7	Power house	92	83	84	81	84	72	73	72	72						
8	SCADA Room															
9	Water Pump House															

Sound Level Meter : Make - HTC S/N - SL1350

Noise level measurement taken by : Uttam Prodhan

Authorised Person
Mitra SK Pvt.Ltd.

Approved by
Mr. Uttam Prodhan
Suptdg Research Scientist
Oil India Ltd, Duliajan

Authorised Person
Oil India Ltd.
30/12/25

		SBPs and dead legs should then be baseline inspected. (OISD-STD-130)
3	External on stream inspection along with UT survey of process pipelines within the unit battery limit is pending since 04.09.2017.	External on stream inspection along with UT survey of process pipelines within the unit battery limit should be carried out in line with OISD-STD-130 (clause 7.1, a). Data generated through UT survey of process pipelines should be interpreted /analyzed with respect to the base line data to confirm fit for intended purpose.
4	Several gas pipelines are found to be touching & embedded in the soil (e.g. 10" gas pipeline from OCS-04, 8" flare header near battery limit & 4" lifter delivery line).This will lead to corrosion at 6 o'clock position	It is to be ensured that gas pipelines are not touching the ground and a minimum clearance of 300 mm is to be maintained from the ground.
Observations pertaining to the pressure vessels		
5	NDT survey of the pressure vessels (30 psig vessel, 250 psig vessel, fuel scrubber, mist extractor & air compressor vessel) is due since 04.09.2017.	The interval of NDT survey should not exceed five years. NDT survey of the pressure vessels should be carried out in line with OISD-STD-128. Data generated through NDT survey of pressure vessels should be interpreted /analyzed with respect to the base line data to confirm fit for intended purpose.
Observations pertaining to the Work Permit System		
6	Work permit system being followed is not as per OISD-STD-105. Following are the observations: a) All columns of the cold/ hot permit are not being filled up. b) It is found that gas concentration is checked only before the hot work and not during the hot work. c) Work permits are not closed after completion of the job.	Work permit system being followed needs review. a) The work permit should be filled up carefully and accurately in clear writing ensuring that detailed and complete information is provided in all the sections / sub sections. b) Gas concentration should be checked before and during the hot work and recorded accordingly in the permit. c) Work permits should be closed after

		completion of the job.(OISD-STD-105)
Observations pertaining to the fire water network		
7	Water spray system is not available in the installation.	Water spray system should be provided at the suitable locations in the installation. (OISD-STD-189, 4.2.3)
8	Fire water mains near boundary wall is not painted with Fire Red paint.	The same should be painted with Fire Red paint as per of IS: 5. (OISD-STD-189, 5.3.18).
Observations pertaining to glycol bath heater		
9	OISD-STD-118, regarding separation distance between blocks/ facilities in the installation is not adhered to at glycol bath heater area. The distance between glycol heater and boundary wall is only about 25 m.	This requires corrective action. (OISD-STD-118,Table-1)
Observations pertaining to the oil sludge pit		
10	OISD-STD-118, regarding separation distance between blocks/facilities in an installation is not adhered to at oil sludge pit area. The distance between oil sludge pit and boundary wall is only about 3 m.	This requires corrective action. (OISD-STD-118,Table-1)
11	Discharge of oil sludge pit pumps is connected to an open pit just outside the installation.	It is recommended to stop such practice immediately to avert any incident/accident due to discharge of lube oil outside the installation.
General Issues		
12	Bypass policy for Safety Critical Equipments (SCE) does not specify time limits for which safety device can be bypassed and authorization at various hierarchical levels.	The policy should specify time limits for which safety device can be bypassed and authorization at various hierarchical levels.
13	By pass register of safety critical equipments is not available.	By pass register of safety critical equipment needs to be developed & maintained.

14	Thermal insulation of engine exhaust of LP booster compressor no.3 found damaged.	The same needs to be replaced.
15	Control valves & transmitters are not tagged in the installation. .	Control valves & transmitters needs to be tagged.
16	Lube oil accumulation observed in OWS channel of LP booster compressors, injectors & lifter compressors.	Engineering & procedural control measures should be taken to avoid abnormal spillage/leakage of lube oil.
17	Vegetation and dry grass observed in the installation.	Corrective action should be taken for removal of vegetation & dry grass either by periodic cutting or by laying a gravel layer.
18	Illumination survey confirms lower lux level at the installation.	It is recommended that necessary action be taken to ensure safe illumination level (OISD-GDN-166, Clause 9.2.3).
19	An opening of 0.5 m X 0.5 m observed in the boundary wall near the oil sludge pit.	The opening in the boundary wall should be closed at the earliest.

C) Production Installation: EPS-Baghjan (OCS-Baghjan)

(Second External Safety Audit)

Previous External Safety Audits at a glance:

Total nos. of recommendations	15
Pending points as on date	0
Percentage compliance	100

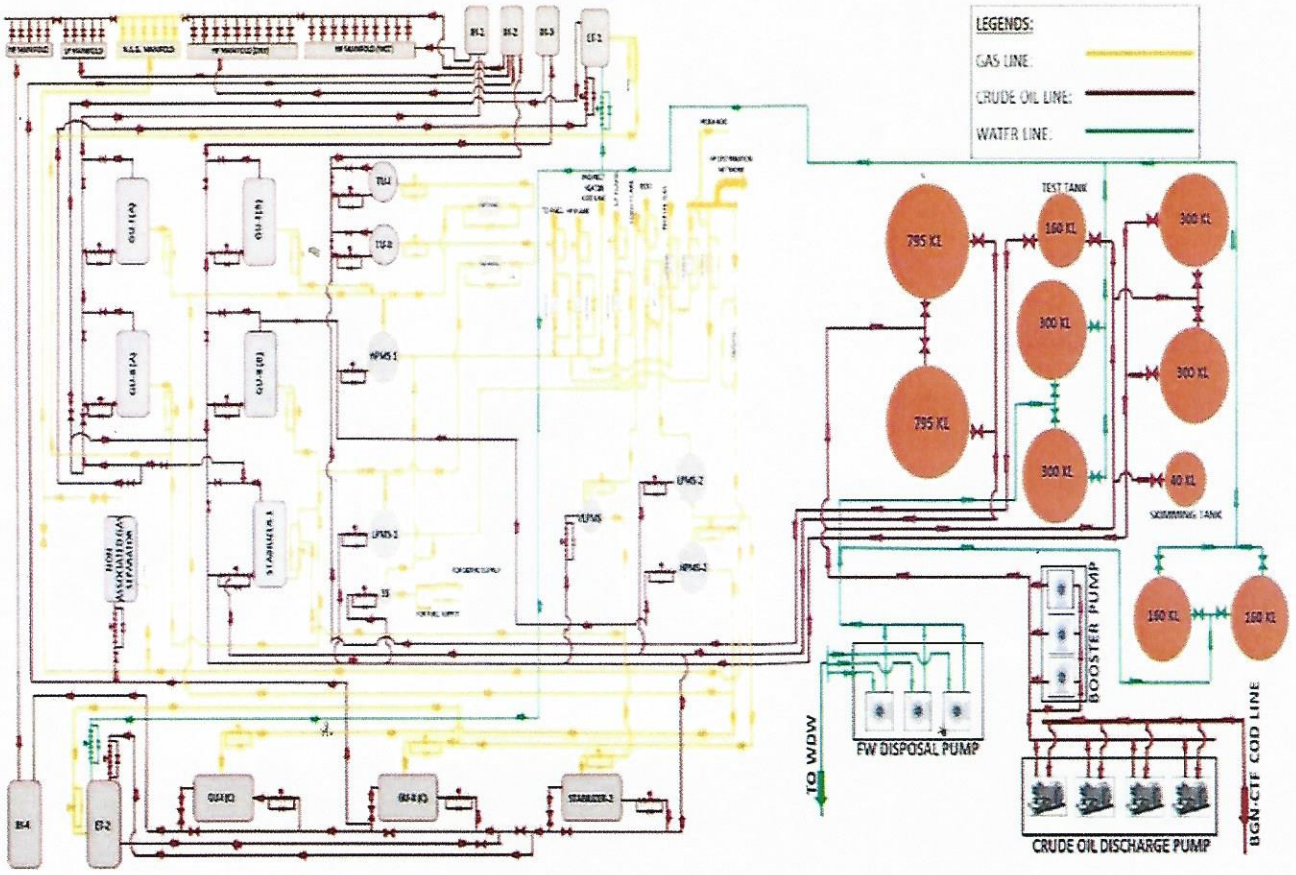
At present 16 (Sixteen) nos. of oil producing wells & five (05) nos. of gas well are connected to Baghjan OCS through individual flow lines at the manifolds. All the gas wells (BGN#03, #05, #07, #09, #13) are connected to Non-associated gas (NAG) manifolds (WP=23 KSc) and remaining oil wells are connected to HP manifolds (WP= 24 KSc.).

Crude oil from the storage tanks is finally dispatched to Central Tank farm, Duliajan.
From NAG Manifold, the fluid is fed into NAG separator for 2-phase separation into gas and condensate. The liquid is charged back into the GU-II (C) and wet gas is fed into BGN-CGGS 16" Gas Line.

तेल उद्योग सुरक्षा निदेशालय
Oil Industry Safety Directorate
ISO 9001:2015 certified

Surface Handling Capacities:

Well fluid processing capacity : 2700 KLPD
Crude oil storage capacity : 2050 m3
Formation water storage capacity: 600 m3



#	Observations	Recommendations
	Observations pertaining to Emergency Response	
1	Emergency on site mock drills carried out from April, 2019 to October, 2019 were fire drills under various scenarios.	Mock drills should be carried out for all the mock drill scenarios as mentioned in onsite ERP. A critical analysis of each drill and exercise should be documented to identify and correct weakness. Mock drills should also be carried out at Odd

		hours without prior intimation to the installation personnel.
2	Annual plan of safety mock drills is not available.	Annual plan needs to be prepared. Various drills should be staggered so that over a defined period of time, each employee has participated in all the drills.
3	An emergency shut down (ESD) system is not provided to isolate the installation from the major hydrocarbon inventories within pipelines and reservoirs, which if released on failure, would pose an intolerable risk to personnel, environment and the equipment /assets.	A suitable ESD system should be provided.(OISD-GDN-227,7.2)
Observation pertaining to Environment Protection		
4	As per formation water analysis report dated 18.11.2019 (sample collected on 11.11.2019 from formation water discharge pump outlet), suspended solids in formation water being disposed to disposal wells is 2912 mg/l. As per MoEF guidelines, suspended solids in effluent for re-injection in abandoned well should not exceed 100 mg/l.	The standards and guidelines of the Environment (Protection) Rules, 1986 & protection against pollution of environment (OMR-2017, 129) for disposal of treated water should be complied with.
Observations pertaining to the pig launcher area		
5	At gas pig launcher (for CGGS,Madhuban) : a) PSV is not installed. b) Pressure gauge is not installed. c) Provision of PSV discharge to flare header is not provided. PSV discharge would remain open to atmosphere, if installed, which is not recommended.	Necessary corrective action should be taken at the earliest
6	At crude oil pig launcher (for CTF	Necessary corrective action should be

	Duliajan) : a) PSV is not installed. b) Provision of PSV discharge to flare header is not provided. PSV discharge would remain open to atmosphere, if installed, which is not recommended. c) PSV point is capped with nuts & bolts.	taken at the earliest
	Observations pertaining to the pipelines	
7	Inspection and maintenance of small bore piping in the installation has not been carried out so far.	It is recommended that a master listing, tagging and plan of small-bore piping & dead legs should be made for inspection and maintenance, especially for all piping containing flammable and toxic fluids even if the fluids are non-corrosive. These SBPs and dead legs should then be baseline inspected. (OISD-STD-130)
8	Well flowlines (16 oil pipe lines & 5 gas pipeline) are non piggable pipelines. A methodology for assessing health of flow lines in line with OISD-STD-233 for non piggable pipelines is not available.	Methodology for assessing health of flow lines should be developed in line with OISD-STD-233 for non piggable pipelines. Inspection of pipelines (well flowlines -nonpiggable) should be carried out as per plan to ensure mechanical integrity of pipe lines.
9	External on stream inspection along with UT survey of the process pipelines within the unit battery limit is pending since 13.06.2011.	External on stream inspection of process pipelines along with UT survey within the unit battery limit should be carried out in line with OISD-STD-130 (clause 7.1, a). Data generated through UT survey of process pipelines should be interpreted /analyzed with respect to the base line data to confirm fit for intended purpose.
10	The underground process piping with coating and wrapping within the installation has never been inspected.	The pipelines should be inspected once in five years using suitable coating surveys. (OISD-STD-130, 8.5.2)
11	The underground process piping (flare header) from OCS to ground flare has	The underground process piping (flare header) from OCS to ground flare should

	never been inspected.	be inspected in line with clause 8.5.2 of OISD-STD-130.
12	Well flow lines (29 crude oil lines) are laid haphazardly one over another, touching each other at battery limit without any colour coding, painting and identification.	The pipelines should be laid at suitable distance from each other as per the best engineering practices to meet operational and maintenance requirements. Touching pipes should be corrected with a freshly engineered system. Pipelines should be painted as per colour code indicated in the standard IS 2379 of the Bureau of Indian Standards or its revised version or company policy. (OMR 2017, 72 d). Stencilling (marking name and service) of pipelines needs to be done.
13	Onset of corrosion observed on crude oil well flow lines from well # 15, 17 & 22 in the installation.	NDT survey of the corroded part should be undertaken and corrective action should be taken accordingly.
14	Coating survey of the underground gas pipeline (16", 37.0 Km, piggable) from OCS, Baghjan to CGGS Madhuban has not been carried out so far. Coating survey of the underground crude oil pipeline (8", 38.2 Km, piggable) from OCS, Baghjan to CTF, Duliajan has not been carried out so far.	The pipelines should be inspected once in five years using suitable coating surveys. (OISD-STD-226, 12.3.6) The pipelines should be inspected once in five years using suitable coating surveys. (OISD-STD-141, 14.4.9.2)
15	Several crude oil & fire water pipelines were found to be touching and embedded in soil (e.g. fire water line near M2 fire monitor, fire water line near H2 fire hydrant, fire water line from fire water tank to diesel engine driven fire water pump suction & crude oil well flowlines at battery limit).This will lead to corrosion at 6 o'clock position	It is to be ensured that crude oil & fire water pipelines are not touching the ground and a minimum clearance of 300 mm to be maintained from the ground.
Observations pertaining to the pressure vessels		

16	NDT survey of the pressure vessels has not been carried out since commissioning of the installation on 13.06.2008.	The interval of NDT survey should not exceed five years. NDT survey of the pressure vessels should be carried out in line with OISD-STD-128. Data generated through NDT survey of pressure vessels should be interpreted /analyzed with respect to the base line data to confirm fit for intended purpose.
Observations pertaining to the Work Permit System		
17	LOTO (lockout and tag out) is not yet implemented in electrical work permit system at the installation.	It is recommended to implement LOTO in electrical work permit system to prevent inadvertent operation due to wrong communication or human error. (OISD-STD-234, 8.6).
Observations pertaining to the fire water network		
18	Fire water system is not kept charged.	Fire water system should be kept charged. (OISD-STD-189,5.2.15)
19	Diesel tanks for diesel engine driven fire water pumps are located close to the engine exhaust of the fire water pumps.	Engine exhaust of the diesel engine driven fire water pumps should be routed to a safe location.
20	Fire water hydrant HJ outlet valve is positioned at about 0.5 m height near crude oil storage tank no. 2.	Hydrant outlets should be positioned at workable height of 1.2 m above finished ground or operating platform level. (OISD-STD-189, 5.5.2.6)
21	Fire water pipe line was found to have been laid beside GU-I dry inlet line (crude oil line).	Fire water pipe line should not be laid besides the petroleum piping. (OISD-189, 5.3, 3). Necessary corrective action needs to be taken.
22	Records of performance testing as per NFPA guidelines for fire water pumps were not available.	Performance testing of fire water pumps as per NFPA guidelines needs to be carried out and records to be maintained.
Observations pertaining to the Indirect Heater no. 4		
23	OISD-STD-118, regarding separation distance between blocks/ facilities in an	This requires corrective action. (OISD-STD-118,Table-1)

	installation is not adhered to at indirect heater no. 4 area. The distance between indirect heater no. 4 and boundary wall is only about 30 m.	
24	Low level switch is not provided in indirect heater no. 4.	Low level switch should be provided to ensure that liquid level is always above the fire tube. The switch should send signal to close the fuel gas supply to main burners and raise audible alarm whenever the liquid level drops below the fire tube.
25	Standard operating procedure (SOP) is not displayed near indirect heater no. 4	The same should be displayed near indirect heater no. 4.
26	Gas detection system is not provided near indirect heater no. 4.	The same needs to be provided.
Observations pertaining to the Indirect Heater no. 1,2 & 3		
27	OISD-STD-118, regarding separation distance between blocks/facilities in an installation is not adhered to at indirect heater no. 1, 2 & 3 areas. The distance between indirect heater no. 1,2,3 and present boundary wall is only about 5 m.	This requires corrective action. (OISD-STD-118,Table-1)
28	Low level switch is not provided in indirect heater no. 1, 2 & 3.	Low level switch should be provided to ensure that liquid level is always above the fire tube. The switch should send signal to close the fuel gas supply to main burners and raise audible alarm whenever the liquid level drops below the fire tube.
29	Standard operating procedure (SOP) is not displayed near indirect heater no. 1, 2 & 3.	The same should be displayed near indirect heater no. 1,.2 & 3
30	Gas detection system is not provided near indirect heater no. 1, 2 & 3.	The same needs to be provided near indirect heater no. 1, 2 & 3.
31	Insulation of indirect heater no. 1, 2 & 3 found damaged.	Inspection for corrosion under insulation (CUI) should be carried out at the

		earliest.
Observations pertaining to the Emulsion Treater No.1 (ET-1)		
32	OISD-STD-118, regarding separation distance between blocks/facilities in an installation is not adhered to at Emulsion Treater No.1 area. The distance between Emulsion Treater No.1 and present boundary wall is only about 5 m.	This requires corrective action. (OISD-STD-118,Table-1)
33	Burner management system is not provided for the Emulsion Treater No.1 (ET-1).	Since the Burner Management System is not available, for the Emulsion Treater No.1, there should be regular monitoring of hydrocarbon gas and record maintained by a competent person authorized in this behalf. (OMR-2017, 69, 3).
34	Low level switch is provided in Emulsion Treater No.1 .However, the cut off logic to ensure that liquid level is always above the fire tube is nonexistent.	Low level switch should ensure that liquid level is always above the fire tube. The switch should send signal to close the fuel gas supply to main burners and raise audible alarm whenever the liquid level drops below the fire tube.
35	Standard operating procedure (SOP) is not displayed near Emulsion Treater No.1	The same should be displayed near Emulsion Treater No.1.
36	Gas detection system is not provided near Emulsion Treater No.1	The same needs to be provided near Emulsion Treater No.1
Observation pertaining to the crude oil storage tanks (Tank-1 (new):795 m3 capacity, Tank-2 (new):795 m3 capacity, Tank-3(test):160 m3 capacity,Tank-5 :300 m3 capacity)		
37	Crude oil storage tanks, Tank-3 (test) & Tank-5 were installed on 13.06.2008.Detailed external & internal inspection of these tanks has not been carried out so far.	Detailed external & internal inspection of these tanks should be carried as per OISD-STD-129.

38	Crude oil storage tanks, Tank-1 & Tank-2 were installed on 05.06.2014. Extensive external corrosion observed on outer shell of crude oil storage tanks, Tank-1 & Tank-2. Detailed external inspection along with ultrasonic thickness survey (without corrosion rate based assessment) of these tanks has not been carried out so far.	Detailed external inspection along with ultrasonic thickness survey (without corrosion rate based assessment) of these tanks should be carried out at an interval of 3 years and is due since 06.06.2017. The same needs to be carried out. (OISD-STD-129,8.4)
39	Strainer on the sprinkler system supply outside the dyke wall of crude oil storage tanks, Tank-1 & Tank-2 is not available	A suitable strainer should be installed on the sprinkler system supply outside the dyke wall to prevent clogging of the spray nozzle.(OISD-STD-189,5.4.2,3)
40	Tank numbers (for crude oil storage tanks Tank-1, Tank-2, Tank-3 & Tank-5) are not painted at three positions, 120 degrees apart, below roof level. Further, at the foot of the staircase tank number, safe filling height, reference height and name of the product being handled is not painted.	Tank numbers should be painted at three positions, 120 degrees apart, below roof level and should be clearly visible from outside the dyke/roadside. Further, at the foot of the staircase tank number, safe filling height, reference height and name of the product being handled should be painted clearly to avoid operating errors. (OISD-RP-108, 4.7.2 B).
41	Flame arrestor is not provided on breather valve for crude oil storage tanks Tank-1 & Tank-2.	The breather valve should be provided with the flame arrestor.
42	Dip hatch cover of crude oil storage tanks T1, T2 & T3 found open.	The same should be closed except while taking the dip of the tanks.
43	Crude oil storage tanks, T-1 & T-2 are located in dyked enclosures with road only on north side (towards gas pig launcher).	Petroleum storage tanks should be located in dyked enclosures with roads all around the enclosure and the same should be complied with. (OISD-STD-

		118,7.1.1)
44	Crude oil storage tanks, T-3 & T-5 are located in dyked enclosures with road only on two sides.	Petroleum storage tanks should be located in dyked enclosures with roads all around the enclosure and the same should be complied with. (OISD-STD-118,7.1.1)
45	OISD-STD-118, regarding separation distance between blocks/facilities in an installation is not adhered to at tank farm area. The distance between crude oil storage tank T-1 & crude oil storage tank T-3 (located in different dyke) is only 14.9 m.	This requires corrective action. (OISD-STD-118,Table-1)
Observation pertaining to the formation water tanks (Tank-1,Tank-2 & Tank-3,300 m3 capacity each)		
46	Formation water tanks, Tank-1, Tank-2 & Tank-3 were installed on 13.06.2008.Detailed external & internal inspection of these tanks has not been carried out so far.	Detailed external & internal inspection of these tanks should be carried as per OISD-STD-129.
Observation pertaining to the flare system		
47	Ground flare is located at a distance of approximately 180 m outside from the OCS boundary wall. This poses a risk of fire due to flare being located outside the premises of installation.	Distance of ground flare should be 150 meters from the boundary wall (inside the OCS boundary/ process units). The separation distance between blocks/ facilities in the installation should be in line with Table-1 of OISD-STD-118.
48	Vegetation was observed around ground flare pit.	Corrective action should be taken for removal of vegetation either by periodic cutting or by laying a gravel layer.
49	Ground flare is not covered by the fire water network.	The flare area should be adequately covered by the fire water network. (OISD-STD-106, 8.3.8)
50	Continuous pilots with a means of remote ignition were not provided for	To ensure ignition of flare gases, continuous pilots with a means of remote

	ground flare.	ignition are recommended.(OISD-STD-106, 8.3.10)
51	Main burners (six each) were provided in HP flare header & LP flare header at ground flare pit. However, main burner line for HP header & LP header found broken at ground flare pit.	This requires corrective action.
	General Issues	
52	A list of safety critical equipments with performance requirement was not available at the installation.	The same should be made available at the installation.
53	Bypass policy for Safety Critical Equipments (SCE) does not specify time limits for which safety device can be bypassed and authorization at various hierarchical levels.	The policy should specify time limits for which safety device can be bypassed and authorization at various hierarchical levels.
54	By pass register of safety critical equipments is not available.	By pass register of safety critical equipment needs to be developed & maintained.
55	Two cement supports are provided for GU-1 vessel. Out of which one support was found cracked.	Corrective action should be taken to avoid further damage.
56	Plot plan of the installation and the operating blocks is not displayed.	Plot plan of the installation and the operating blocks should be displayed. The site of hot jobs should be indicated on these plot plans with red pins. (OISD-STD-105, 5h)
57	Oily water Sewer (OWS) system is not available in the installation.	Oil India Limited should review & implement the requirement of OWS system in the entire installation in line with OISD-STD-109.

****

Annexure-5


25.0
GU-I
GU-II
24.8
STAB
SERVO
HPMS-I
LPMS-I
24796
00.
0.43
58.3
DIST
TU-I
TU-II
ET-I TEMP
4.47
46.2
ET-I (PRESS.)
T-I
CODP
2.55
F-2

Annexure-6



ऑयल इंडिया लिमिटेड

Oil India Limited

OIL SPILL CONTINGENCY PLAN

Prepared by
HSE Department
OIL INDIA LIMITED

ऑयल इंडिया लिमिटेड
(भारत सरकार का उद्यम)
Oil India Limited
(A Government of India Enterprise)

Oil Spill Contingency Plan in OIL INDIA LIMITED

Approval

	Name	Signature
Approved by	Shri Ajit Chandra Haloi **Chief General Manager (HSE)**	
Reviewed by	Shri Gopal Govinda Rasu **Dy. General Manager (HSE)**	
Prepared by	Bhabananda Saikia **Superintending Engineer (HSE)**	

Date	Revision Details	Revision Number
01.06.2013	First Issue	00
23.11.2022	Second Issue	01

Executive Summary

Oil India Limited, by its nature of operation has storage, transportation and handling facilities of oil through tankages, pipelines and browsers, distributed in its area of operation. Oil Spill Contingency Plan (OSCP) is endeavoured to be practical document for preparedness for probable incidents of oil spillage and guidance for tackling an oil spill and recovery from the effects with some procedures laid down.

Having an OSCP fulfils the requirement of Indian Government commitments to the United Nation's conventions on Oil Spills and its response. Ministry of Environment, Forest and climate change (MoEF&CC) has also emphasized the same as per Indian Coast Guard's National Oil Spill Disaster Contingency Plan and various notifications to individual companies at the time of commencement of operations in the oil fields.

This OSCP is for On-shore operations only considering the geographical location of OIL's operation. The document defines the roles and responsibilities, procedures of response in tier-I spillage, escalation to tier –II and tier-III and operational readiness in its scope of applicability. The OSCP is prepared under the guidance of OISD-GDN- 200 guidelines of Indian Coast guard wherever applicable. American Petroleum Institute's documents are also referred. It is aligned with the Off Site Disaster Management Plan, ERDMP & Corporate Disaster Management Plan.

(A C Haloi)
Chief General Manager (HSE) - HoD
Date: 23.11.2022

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ABBREVIATIONS & ACCRONYMS

DCR	Disaster Control Room
DMP	Disaster Management Plan
DOP	Delegation of Power
ECR	Emergency Control Room
ECT	Emergency Control Team
ERDMP	Emergency Response and Disaster Management Plan
IM	Installation Manager
NOS	DCP National Oil Spill Disaster Contingency Plan.
OISD	Oil Industries Safety Directorate
OIL	Oil India Limited
OSC	On site Coordinator
OSCP	Oil Spill Contingency Plan
OSD	Oil Spill Dispersant
OSR	Oil Spill Response
POL	Petroleum Oil and Lubricants

1.0 SCOPE

This "Oil Spill Contingency Plan" is applicable to the Geographical Area of OIL's onshore operation in FHQ Area, viz. producing districts of Assam & Arunachal Pradesh. However, it may be referred in other spheres also. The scope includes the containment, control, clean up and recovery of oil spillage that may arise from OIL's exploration, drilling, production and transportation activities. It does not include the litigations, compensation etc.

2.0 OBJECTIVE

- To establish an effective system for detection and reporting of spills.
- To establish adequate measures for preparedness for tackling of oil spillage at various locations.
- To facilitate rapid and effective response to oil spillage.
- To establish adequate measures for crew, responders, and public health and safety, and protect the land and water environment.
- To establish appropriate response techniques to prevent, control and combat pollution and dispose-off the recovered material in an environmentally sound manner.
- To provide a training and develop awareness amongst the employees.
- To provide plan & programme for practice drill based on scenarios.
- To meet statutory requirements.
- To establish response procedures for oil spill.

3.0 INTERFACE WITH OTHER PLANS

This plan is developed in conjunction with the following documents:

(i) OIL HSE Policy and Plan
(ii) Off-site Disaster Management Plan, On-site Disaster Management Plan and ERDMP of OIL.
(iii) National Oil Spill Disaster Contingency Plan (NOS-DCP) issued by the Coast Guard Headquarters.
(iv) OISD GDN- 200 for Preparation of Oil Spill Response Contingency Plan.
(v) OISD GDN- 165: Rescue and relief operations for POL truck tank accident.

4.0 PERCEIVED OIL SPILL RISKS AND SPILL QUANTITIES

4.1 Response to an oil spillage depends upon two factors: Quantity of oil spilled and Circumstances of the spill. Depending upon the scenario the response should be attempted. Broadly, the oil spill scenarios are categorized as:

1. Tier- I: Preparedness and response to small spill within capabilities of an individual installation/facility.
2. Tier-II: Preparedness and response to spill that requires the co-ordination of more than one source of equipment and personnel (or other than resources from OIL).
3. Tier-III: Major spill requiring the mobilization of all available national resources and depending upon the circumstances, will likely involve mobilization of regional and international systems.

4.2 Risk Assessment:

Factors on which the assessment is to be conducted are listed for guidance for implantation of this plan at Installation level:

1. Source of leakage;
2. Location;
3. Circumstances;
4. Quantity of leakage;
5. Financial Implication;
6. Regulatory Implication;
7. Weather condition;
8. Reputational risks;

Considering the factors listed above assessment of risks of oil spillage to be done at installation level. A copy of such document shall be prepared and kept for reference at every installation.
Main spill scenarios of spillage are briefed below for guidance. However, exhaustive assessment of risks to be made and kept for reference at installation level.

The facilities/ resources of Commercial, Social, Ecological and recreational value around an installation have to be identified by the Installation at installation level and keep a list of those at respective installation to supplement this plan.

4.2.1 Well Blow - out Incidents:

Various stages of drilling shall be assessed for -
a. Exploratory wells:
b. Developmental wells:
c. Producing wells:
An oil spill due to Well Blow out is possible during Drilling activities when wells are drilled to meet exploration, development or production requirement. Well blowout is also possible during any subsequent “Well Intervention” of existing wells for Work - Over activities. In the event of an unfortunate well blow out, the situation will call for the immediate services of Well Control specialists. However, adherence to established drilling procedures, which includes proper use of Blowout Preventers (BOPs) of rated pressures, will adequately control the oil spill risk due to well blowouts. Available Contingency Plan for impending blowout to be followed.

4.2.2 Leakage from Couplings/ Joints/ Valves:
Spillage due to likely leak from sources, like, Hose Joints, Valves and Blinds, Swivel Joints, Flange Joints are to be assessed at installation level. Such Installations shall assess the risk of oil spill for the probable leakages from flanges of pipelines under it.

4.2.3. Spillage from Tanker:
Spillage from tank and bowsers may occur due to road accidents. To avoid risks of road accidents necessary legal and available best practices should be taken. Given a spillage, occur in spite, if information were received from other sources and agencies, the crew who are in the responsibility of emergency communication shall convey information to depot / terminal / installation immediately. OISD-GDN-165 to be referred in this respect.

4.4.4 Leakage from pipeline:
The pipeline carries highly inflammable crude oil & natural gas. Though utmost precautions are taken, sometimes the pipeline may leak, due to corrosion, miscreant activity, god's act, failure of safety devices etc. Since the pipelines are numerous and distributed in many geographical profiles, spillage of crude is highly situation and location specific. Given the numbers of pipelines, vastness of network, locations chance of spillage from a pipeline is highest.

4.4.5 Bursting of pipeline in the river Crossings/ Rail / road bridges / Aerial Crossings:
The bursting at these may be caused due to corrosion, by accidental hit by heavy equipment, by snapping of aerial crossings, accidental hit by heavy equipment, by snapping of aerial crossings pipe support strings, miscreant activity etc. This may result in huge oil spillage polluting the water.

4.4.6 War and Civil commotion:
Due to bombing during war or by terrorist or attempted pilferage, the pipeline may develop leak or burst. The oil spillage may be high and may result in fire.

4.4.7 Hurricane Damage to Pipeline at rail/road bridge/aerial crossing
Due to high velocity of wind, the pipe supports may be snapped. This may result in breakage of pipeline leading to oil spillage. If there is a heavy rainfall, due to high turbulence of water, there may not be any fire.

5. SPILL RESPONSE STRATEGY

5.1 OIL shall adhere to the applicable standards in its equipment. Oil Spill Response flow of information & responsibilities is given at Annexure-4 and Annexure-5, as per the plan, the responsibilities during oil spill response is well defined.
In any oil spill response, mobilization of resources depends on a number of factors. Those are:

- Different risk scenarios, quantity of spill, and spill tracking;
- Equipment need;

- Man power requirement;
- Communication channels;
- Operation;
- Data directory

5.2 The Station in-charges (or Installation Managers), from both probable upstream and downstream shall proceed to detect the exact location to find out the exact location of spillage on receipt of the information of spillage from any source. In the meantime, search party will process along the row and locate the spill site. This ground party will have a mobile fitted jeep, hand wheel of block valves, box key etc (Refer Annexure-6). They will locate the exact site and inform as per the information flow matrix Annexure-4 and Annexure-5. The On-site Co-ordinator (OSC) shall act as the controller of the incident, arrange for the mobilization of emergency equipment, men and materials and position at the site in his best capacity. OSC will establish radio link/communication between the sites and communicate as per the communication channel of Annexure-4 and Annexure-5 respectively.

5.3 OIL SPILL EQUIPMENT

The following spill control equipment should be in place in sufficient quantity as per the finding of assessment carried out as mentioned in 4.2 and record should be maintained in the following format :

(i) Sorbent & Sorbent booms **(river standard)**	(viii) Raft
(ii) Petroleum sorbent rolls	(ix) Drum
(iii) Petroleum sorbent pillars	(x) Pump
(iv) Skimmer	(xi) OCV
(v) Oil spill Dispersant (OSD)	(xii) Hand Boom
(vi) Tent	(xiii) HC Pads
(vii) Tags	(xiv) Life Jacket

Format:

RESOURCES	QTY.	LOCATION	CUSTODIAN DEPT.
1)			

Custodian Department shall procure the equipment and keep in a readily deployable position/condition.

6. RESPONSE PLANNING:

6.1 Reporting of oil spill incident:

Immediately upon notice of oil spill, "Incident Reporting" shall be done in the prescribed format (Format: Annexure- 2) to the following:

- Internal within the organisation through mail, and SMS.
- OISD when applicable
- Mutual Aid Partners (in case it is declared Tier-II)

IM shall ensure to inform internally to HoD-PSS Department for necessary support services. The reporting may be done as per Annexure-4 & Annexure-5 flow chart.

6.2 Isolation & Security:

OSC or IM shall ensure to isolate the line both in upstream & downs stream if any. Ensure the safety of the area by proving security guards, prohibiting smoking and use of naked lights through Security Dept. Area to be cordoned off and safety signboards to be posted. IM's shall also ensure lock out and tag out of isolation values at both the ends. IM shall obtain permission from the landowners with the support and co-ordination from HR-E/ PA and Land Department, if necessary for use of their private land in raising earth bunds cutting cellar to contain the leak. Apart from visual observation by the team under the OSC, aerial surveys shall be made if necessary. Eventually senior level executive (DGM & above) shall take over as the OSC and move to the spillage site with team comprising of representatives from various concerned departments like Security, PSS & Civil. He will have the overall responsibility & he will have authority over the members of the cross functional team. All the representatives shall work under his guidance and with co-ordination with the OSC. After assessing the situation with team, OSC shall appraise the Asset Manager and RCE. RCE shall be fully empowered to take decisions and activate ECT. Entire communication channel shall be guided by Annexure-4 and Annexure-5. OSC shall report to the management as per the format of Annexure-4 and Annexure-5. While Assessing OSC shall consider the factors as per 4.2.

As required by the circumstances the team will:

- Obtain a suitable slick-tracking model for the size of oil spill that has occurred and predict the likely developments of the incident.
- Mobilise clean-up teams and equipment as advised by OSC.
- Liaise with other departments.
- Arrange for contracted vessels to be equipped with any required equipment (i.e. PRP/OSD, booms, absorbent booms, mats etc.)
- Inform nearby installation operators if slick is identified to be moving out of the operating area.
- Keep OSC informed of major developments affecting clean-up operations onshore.
- Assess requirement of water and land transport and accordingly take action.
- Stand down only after instruction from OSC.
- Submit log of events to HoD-HSE.
- Arrange to return equipment/services availed from other sources.
- Commence procedures to ensure payments are made for emergency resources.

6.3 Retrieving oil spills:

Retrieve the oil into drums/tanks in the case of large oil spills using pneumatic pump for transport the oil from spoiled area to the tanks.

6.4 Firefighting:

Fire Tenders shall move immediately on receipt of call to the location and take position. Firefighting team shall be under the control of HoD-HSE put trailer pump or any other portable fire pump in service and act as per the scenario.

6.5 Repair:

Repair shall be attempted as soon as possible to avoid further spillage. Work out the methods of leak repair in consultations with Chief Coordinator and Operation Coordinator (Refer 8.2) giving accurate information on the extent of damage. However, recovery from the spillage shall not be delayed for the sake of repair. OSC shall always prioritize control and containment of spillage over repair of the leakage. Mobilization of men and materials required for the leak repair work as directed from Headquarters. OSC/IM shall carry out leak repair works as demanded by the situation on arrival of men and materials for that purpose.

Note:

01. In the event of a hurricane, communication may be completely disrupted. After stopping the pumping operations, the search party should approach from both upstream/ stations and isolate the line for stoppage of the leak.

02. In case of war or civil commotion, the control measures for different locations will be as discussed earlier taking the law and order authorities into confidence and under their guidance.

6.6 Strategy for oil and waste storage and disposal:

There are two major steps in oil spillage contingency. Those are Containment and Recovery. The oily waste can be either collected from the affected area. During onshore waste collection, it will be mostly oil with mud sand, pebbles, small plants etc. and chocolate mousse. During spill in water body, the waste collection would include oil, oily waste mixture, chocolate mousse, floating debris soaked in oil, floating vegetation etc.

The spilled oil shall be collected into drums/tanks in the case of large oil spills using pump for transport. Necessary oil tanker or bowser shall be kept nearby to the site and the collected oil shall be unloaded at the designated area in a safe & environmental friendly manner.

The hazardous waste is to be managed and handled as per Hazardous Wastes (Management and Handling) Amendment Rules, 2016.

7. EMERGENCY CONTROL TEAM (ECT)/ECR

The ECT/ECR will compromise of the following members under the leadership of ED-FHQ-A.

- Asset Manager/ Surface Manager
- HoD-PSS
- HoD – HSE
- HoD- Civil
- HoD– Admin.
- HoD-PA
- HoD-Finance and Accounts / GM (F&A)
- HoD-Contract
- HoD- Electrical
- HoD- Materials
- HoD- Security

They may appoint their representatives in senior executive level.

7.1 Important duties:

(A) On Site Co coordinator (OSC)

On Site Coordinator shall be the official Installation Manager (IM) under whose jurisdiction oil spill has taken place, shall be the person responsible for the oil spill response activities.

On Site Coordinator (OSC) is to assess the situation of the spill and shall take action as per following:

1. Effective and Safe deployment of oil spill response (OSR) equipment and deployment of trained OSR team.
2. Requisitioning of extra manpower from Support Manager through ECR.
3. Shall prepare the duty roster of personnel's and ensure that every one has understood his duty to be performed.
4. Shall ensure that each duty watch is suitably turned around as per demand of the situation.
5. Shall ensure that he is always in communication with his team /team leaders as well as Emergency Control Room (ECR) with the help of VHF /Walkie Talkie, Mobile Cell Phone.
6. Shall assess the oil spill scenario and requirement of consumable items for example Sorbent sheets, Sorbent booms, Dispersants etc. and initiating procurement action indicating approximate time when these items are required.

7. Shall ensure that all the actions carried out are logged suitably. (This would assist in analysing efficiency of men and machine both as well as provide scope for further improvement in various actions).
8. Shall route all his requirements of men and material including vehicles and watercrafts etc. through Incident Controller only.
9. Shall ensure safe recovery/return and accounting of all the items provided to him for the purpose.
10. Shall ensure that all his men are in possession of proper safety gears prior to starting of any operations i.e. Lifejacket, Life Buoy Lifeline, Raincoat, Torches, Working hand gloves etc.
11. Shall give regular feed back to ECT on the developments of oil scenario to formulate and decide future course of actions. Shall ensure action and anticipate the future requirement of men, material etc.

Sequential Steps

Immediate:

- Start personal log of events.

- Establish the following information:

  - Time spill occurred,
  - Position and shape of the slick,
  - Visual appearance and apparent thickness of the oil,
  - Percentage cover of the various thickness of oil,
  - Speed and direction of the slick,
  - Sensitive areas/vessels, etc. in its path,
  - Local weather conditions and sea state. - Investigate the source of leak / spillage
  - Co-ordinate with OSC in drawing a strategy and dealing with the Emergency.
  - Contact and aboard the vessel planned to have ERT and the OSR equipment.

- Determine whether resources available can handle the incident onshore/ offshore. If not, request activation of further mobilization of resources as per the Oil Spill Contingency Plan from ECT.

- Instruct boat (In case of water bodies) to take samples of spilled oil, if possible, for analysis and evaluation.

- Initiate production shut down depending on the conditions.

- For a spill capable of being controlled by the resources available offshore, contain and collect oil using OSR equipment.

General:

- Inform ECT as frequently as possible, but at least once every hour, of all actions and developments offshore.
- OSC shall ensure management report and overall containment, control, recovery, clean-up and deciding future strategies in consultation with ECT/ECR.

Standing Down:

- Send status report to ECR
- Ensure records of the event are gathered from all parties.
- Ensure all OSR equipment are cleaned after operation as per the maintenance schedule and store properly.
- Ensure borrowed equipment are returned as per contract and recovered oil is properly stored or disposed.
- Advise vessels suitably.
- Restore normal operation.
- Forward all log of events to ECT for HSE Manager's record and action.

(B) Head-Admin & Head – HSE shall themselves or by representatives suitable for liaise with government authority. They will act in consultation with the respective HOD's.

(C) Bio remediation – shall be done through third party. In this regard, rate contract shall be formed by PSS in consultation with HOD – HSE. HOD – PSS shall be the contract coordinator & single point contract for the same.

(D) Disposal of collected oil shall be done by respective asset through authorised recycle of oily waste & Asset Manager shall be accountable for the disposal. Hazardous waste rule, 2016 shall be strictly adhered to.

(E) Notices from authorities shall be taken care of by HOD - HSE. HOD – HSE shall be supplemented by necessary data by respective asset, PSS, admin department etc.

(F) Legal aid shall be initiated if necessary in the preview of HOD – Admin. All concerned shall supplement HOD Admin with necessary data, representation in this regard.

(G) HOD-PA shall take necessary action to manage media & public to ascertain company's reputation.

(H) HoD-Finance, HoD-Contract and HoD-Materials shall provide necessary support for urgent contract and procurement. Where there is financial implications, approval to be obtained from Competent Authority as per prevailing DoP. Framing of contracts to be done as per the prevailing procedures and DoP. However, the restrictions imposed (if any) for procurement

of items shall be eased, considering the urgent requirement of the spill response items, as they would be required only in emergency conditions.

8.0 RESPONSE ORGANIZATION

8.1 Initial Phase

In the initial phase only someone close enough to the scene of emergency can exercise emergency co-ordination. Accordingly, the Installation Manager (IM) will assume the role of Site Coordinator (OSC).

8.2 Intermediate Phase

The Chief Co-ordinator (CC) of the respective sphere (FHQ/PHQ/Project) may appoint a person (DGM/GM) under purview of the Disaster Management Plan (DMP), who is normally stationed at Base to take over the task at Site Control Room (SCR) as OSC. Alternatively, IM shall continue as the OSC until senior officers shall assume the duty of OSC at site, depending upon the gravity of the situation.

8.3 Function

The Coordinator will make an assessment of the situation; the type and quantity of assistance required and communicate the same to the his/her Zonal/Sectional in-charge who in turn will inform his Head of the Department/GM as the case may be for further information to the Chief Corporate Co-ordinator (CCC) of the DMP. The OSC will mobilize the resources available at site, deal with the situation and take such actions as directed by the Chief Co-ordinator at the FHQ/PHQ/Projects. He will transmit situation reports to the base disaster control room if necessitated at regular interval prefixing a numerical sequence to each message.

8.4 Site Control Room

• Location:

The Site Control Room (SCR) will function at the installation depending upon situation. In case the situation warrants activation of Onsite Disaster Management Plan, an alternate site control room will be set up at a safe distance at a place closest to the installation.

• Mobilization:

The Site Co-coordinator (OSC) will set up SCR as soon as he becomes aware of the emergency.

• Function

To prepare report on status of the emergency from time to time and take steps to fight the emergency. Determine the type of assistance required & mobilize the same through SCR.

8.5 Disaster Control Room (DCR)

• Location

A control room established at the base station of the sphere (FHQ/PHQ/Project) as the case may be will be termed as the Disaster Control Room.

• Mobilization
The GGM/ED (FHQ Affairs) who is the nodal officer of the spheres stationed at FHQ will open up Control Room/Set up control room as soon as he becomes aware of the emergency.

• Function
To prepare report on status of the emergency from time to time and take steps to fight the emergency. Determine the type of assistance required & mobilize the same through DCR.

8.6 Chief Coordinator (CC) at FHQ/PHQ/PROJECT level

FHQ/ PHQ/Project Head will be the Chief Co-ordinator where the emergency has taken place and will exercise control through GGM (FHQ Affairs) who is the Nodal Officer stationed at FHQ Alternate Chief Co-ordinator will be the next Senior Most in the FHQ/PHQ/Project.

In case the emergency within the installation is likely to have effect beyond the installation premises or an emergency outside the premises of the installation is likely to effect the operations of the installation, and Disaster Management Plan (Mutual Aid) is activated, CC shall inform Nodal Officer of FHQ to further intimate Corporate Disaster Management Group and request the intervention of Corporate Disaster Management group for activation of Corporate Level DMP if felt necessary. The Nodal Officer shall immediately inform the Nodal Officer of Corporate Disaster Management Group, CMD and Corporate Coordinators.

9.0 SITE SPECIFIC RESPONSE PLAN

9.1. Oil Spillage in Water Bodies:

In OIL's operational areas, there are hundreds of rivers, rivulets and water bodies. Thousands of people are economically dependent upon these water bodies and rivers. Although it is not possible to give detail for every spillage scenario, it is tried to give an overall idea to mitigate spillage in rivers and water bodies. Oil spills in rivers differ from spills that occur in the open ocean.

Some oils are denser than river water. Oil usually floats because it is less dense than the water it is floating on. (Density is the mass, or weight, of a substance divided by its volume.) The density of river water is usually about 1 gram per cubic centimetre (g/cc). Sometimes the density of an oil is so close to that of river water that the oil moves along the river partly underwater. When such oil finally moves into the ocean at the river mouth, it can re-float. This does not happen very often, but it is something we have to think about whenever oil is spilled in a river. If spilled oil sinks, it can be very difficult to

clean up. If something causes it to pool on the bottom (for example, it may be trapped behind a sunken vessel), then vacuum devices can be used to try to get the oil off the bottom. As you might guess, this method may not be very effective because vacuums may capture a lot of water and sand along with the oil.

Movement is usually downstream. Unlike in a bay or the open ocean, currents in a river are generally directed downstream (except very close to the mouth of the river, where it enters the ocean; here, a flood tide might actually reverse the flow of the surface water). The greater predictability of river currents makes it easier to forecast which way the oil will move. Wind blowing across the river also affects where the oil will come ashore. If the wind is blowing straight down the river (as might happen on a river with high banks), it often will travel quite far down the river before it comes in contact with a beach. In order for the oil to beach, the wind must blow the oil to one side of the river or the other.

Dams and locks influence oil movement. Rivers sometimes contain dams or locks that slow or divert water flow. Dams and locks also slow down the movement of spilled oil. In fact, oil tends to collect in areas next to dams or locks, where it can be picked up from the surface of the water by skimmers (devices that "skim" the oil off the water surface), sorbent pads (big square pads of an absorbing material that the oil will stick to), or sorbent booms.

Vegetation may grow right at the water's edge. Along many rivers, plants and trees grow right up to the river's edge. Those rivers do not have the open, sandy shores that you find along many parts of the open coast. It is much harder to remove oil from vegetation than from a hard-packed sand beach. Spill responders try to protect the plants by using booms, but if the vegetation gets oiled, responders often either cut, burn, or flush it with water to try to get the oil out.

Oil can interact with sediment carried by rivers. Rivers often carry a lot of sediment in their currents. That means when oil droplets drift into the water column of a river, the sediment has the potential to stick to the oil droplets. Eventually (depending on how strong flowing and full of sediment a river is) some of the oil-sediment combination may settle out to the bottom of the river, usually near the river mouth as the water slows down and reaches the ocean.

The trajectory (direction of movement) of oil spilled into a river is affected not only by the river currents -- which generally take the oil downstream -- but also by the wind. If the wind blows straight down the river, the oil may travel quite far down the river before it comes in contact with either bank. However, if the wind blows at an angle to the river, the oil is more likely to be blown towards one or the other riverbank.

When an oil spill occurs on water, it is critical to contain the spill as quickly as possible in order to minimize danger and potential damage to persons, property, and natural resources. Containment equipment is used to restrict the spread of oil and to allow for its recovery, removal, or dispersal. The most common type of equipment used to control the spread of oil is floating barriers, called booms.

Containment booms are used to control the spread of oil to reduce the possibility of polluting shorelines and other resources, as well as to concentrate oil in thicker surface layers, making recovery easier. In addition, booms may be used to divert and channel oil slicks along desired paths, making them easier to remove from the surface of the water. Although there is a great deal of variation in the design and construction of booms, all generally share four basic characteristics:

• An above-water "freeboard" to contain the oil and to help prevent waves from splashing oil over the top of the boom

• A flotation device

• A below-water skirt to contain the oil and help reduce the amount of oil lost under the boom

• A "longitudinal support," usually a chain or cable running along the bottom of the skirt, that strengthens the boom against wind and wave action; may also serve as a weight or ballast to add stability and help keep the boom upright

When a spill occurs and no containment equipment is available, barriers can be improvised from whatever materials are at hand. Although they are most often used as temporary measures to hold or divert oil until equipment that is more sophisticated arrives, improvised booms can be an effective way to deal with oil spills, particularly in calm water such as streams, slow-moving rivers, or sheltered bays and inlets. Improvised booms are made from such common materials as wood, plastic pipe, inflated fire hoses, automobile tires, and empty oil drums. They can be as simple as a board placed across the surface of a slow-moving stream, or a berm built by bulldozers pushing a wall of sand out from the beach to divert oil from a sensitive section of shoreline.

RECOVERY OF OIL:

Once an oil spill has been contained, efforts to remove the oil from the water can begin. Three different types of equipment—booms, skimmers, and sorbents—are commonly used to recover oil from the surface.

Booms

When used in recovering oil, booms are often supported by a horizontal arm extending directly off one or both sides of a vessel. Sailing through the heaviest sections of the spill at low speeds, a vessel scoops the oil and traps it between the angle of the boom and the vessel's hull. ln another variation, a boom is moored at the end points of a rigid arm extended from the vessel, forming a "U"- or "J"- shaped pocket in which oil can collect. In either case, the trapped oil can then be pumped out to holding tanks and returned to shore for proper disposal or recycling.

Skimmers

A skimmer is a device for recovery of spilled oil from the water's surface. Skimmers may be self-propelled and may be used from shore or operated from vessels. The efficiency of skimmers depends on weather conditions. In moderately rough or choppy water, skimmers tend to recover more water than oil. Three types of skimmers— weir, oleophilic, and suction—are described below. Each type offers advantages and drawbacks, depending on the type of oil being cleaned up, the conditions of the sea during clean-up efforts, and the presence of ice or debris in the water.

Sorbents

Sorbents are materials that soak up liquids. They can be used to recover oil through the mechanisms of absorption, adsorption, or both. Absorbents allow oil to penetrate into pore spaces in the material they are made of, while adsorbents attract oil to their surfaces but do not allow it to penetrate into the material. To be useful in combating oil spills, sorbents need to be both oleophilic and hydrophobic (water-repellent). Although they may be used as the sole clean-up method in small spills, sorbents are most often used to remove final traces of oil, or in areas that cannot be reached by skimmers. Once sorbents have been used to recover oil, they must be removed from the water and properly disposed of on land or cleaned for re-use. Any oil that is removed from sorbent materials must also be properly disposed of or recycled.

Dispersing agents

Dispersing agents, also called dispersants, are chemicals that contain surfactants, or compounds that act to break liquid substances such as oil into small droplets. In an oil spill, these droplets disperse into the water column, where they are subjected to natural processes—such as wind, waves, and currents—that help to break them down further. This helps to clear oil from the water surface, making it less likely that the oil slick will reach the shoreline. The effectiveness of a dispersant is determined by the composition of the oil it is being used to treat and the method and rate at which the dispersant is applied.

Bioremediation

Bioremediation technologies can help biodegradation processes work faster. Bioremediation refers to the act of adding materials to the environment, such as fertilizers or microorganisms, that will increase the rate at which natural biodegradation occurs. Furthermore, bioremediation is often used after all mechanical oil recovery methods have been used.

Shoreline Clean-up:

Both natural processes and physical methods aid in the removal and containment of oil from shorelines. Sometimes physical methods are used to enhance naturally occurring processes. Examples of a technology that uses both natural processes and physical methods to clean up an oil spill are biodegradation and bioremediation, which are described later.

9.2 Oil Spillage on land:

Manual recovery

Manual recovery is the most common method of shoreline clean up and involves teams of workers using rakes, shovels, and other tools to remove oil and debris. The oiled materials are collected in buckets and drums for transfer to a processing station. Workers may also use suction hoses, pumps, and vacuum trucks to recover spilled oil. While manual clean-up is a slow, painstaking process, it generates less waste than other techniques.

Berms / Trenches

Spills on land can be contained for recovery by building berms or dikes in the path of the oil flow, using either soil from the area, sand bags, or other construction materials. It is important to make sure the berm does not cause oil to back up and permeate the soil, where it could contaminate groundwater. If the water table is high and the oil will not permeate the soil, shallow trenches may be dug to collect oil for removal.

Land booms

Land booms look like large sausages. They are made from oil absorbent material causing them to act as a barrier. This prevents oil from leaving an area surrounded by land booms.

Hydrocarbon pads

Hydrocarbon pads are a type of oil absorbent pads. Each pad absorbs a large quantity of oil. They are effective where there is a pool of oil, which needs to be soaked up. Once the pads are saturated, they can be collected in sealed plastic bags for disposal.

Sorbents

It contains microbes, which are dormant until they come into contact with hydrocarbons. These microbes consume the oil, cleaning the soil of all evidence of the hydrocarbon spill. If the spill has seeped into the soil, it may be necessary to dig up the top layer and aerate the soil. Microbes function best when damp, so spraying the area with water also aids the clean-up operation.

Bio-remediation

Bioremediation technologies can help biodegradation processes work faster. Bioremediation refers to the act of adding materials to the environment, such as fertilizers or microorganisms, that will increase the rate at which natural biodegradation occurs. Furthermore, bioremediation is often used after all mechanical oil recovery methods have been used.

In-situ burning

In-situ burning of oil involves the ignition and controlled combustion of oil. It can be used when oil is spilled on a water body or on land. In-situ burning is typically used in conjunction with mechanical recovery on open water. Fire resistant booms are often used to collect and concentrate the oil into a slick that is thick enough to burn. Many factors influence the decision to use in-situ burning on inland or coastal waters including ***prevailing regulatory requirements***. Elements affecting the use of burning include water temperature, wind direction and speed, wave amplitude, slick thickness, oil type, and the amount of oil weathering and emulsification that have occurred. Weathering is a measure of the amount of oil already having escaped to the atmosphere through evaporation.

10.0 TERMINATION OF OPERATION

The termination of the operation shall be decided by the RCE on feedback received from ECT and OSC. Regulating authorities like SPCB, District Administration etc. shall also be contacted before coming to this decision. Competent authority may issue press release.

10.1 Standing down equipment, cleaning, maintenance and repair

10.1.1 Replacement

On completion of Pollution Response Operations, all the equipment, machineries and consumables shall be accounted for and checked for their serviceability. All equipment and machineries shall be thoroughly washed with fresh water as per the OEM's guidelines, necessary for maintenance and then the equipment stored, and secured in their respective places.

10.1.2 Preparing final detailed report

After completion of operations, the OSC shall prepare a detailed report covering all the aspects of the oil spill clean-up, which shall include success and failures, as well as lessons learnt, recommendations about equipment, man power, plans etc. The report is to be forwarded to Leader, ECT/ECR.

10.1.3 Reviewing plans and procedures from lessons learnt

The DCR will carry out deliberations on the report received from OSC and give its recommendations to HoD-HSE for putting it to ED/Management for necessary action.

10.2 Help from mutual aid partners

In case of the spill containment is beyond the internal resources the OSC may seek help from mutual aid partners to arrest the loss to bare minimum. In this regard, the approved document on "Offsite Emergency Response Plan" may be referred.

11.0 TRAINING SCHEDULES AND DRILL / EXERCISES

11.1 Oil spill response drills and exercises

OIL shall have regular internal exercises and testing, validation and updating of the OSCP to ensure that skills and awareness related to OSR are maintained to a state of operational readiness as well as the effectiveness of this plan. This will also check the functional ability of the ERT/ ECR. In order to have optimal utilisation of equipment with minimum wear and tear, quarterly exercises are recommended for testing of OSCP. Testing and exercises also provide management an opportunity to assess equipment, measure performance and obtain feedback from participants, update and correct the OSCP, show sincerity for protection of marine environment and company's commitment on oil spill prevention and response.

Exercise and drills may involve any or a combination of the following:

(i) Oil spill contingency plan

(ii) Mock exercise activating oil spill response

(iii) Equipment and personnel mobilization and deployment

(iv) Joint exercise with other companies

(v) Full-scale incident management exercise

Each exercise shall be debriefed to identify weaknesses in the OSCP and equipment, and appropriate remedial action shall be undertaken where required. The Head (S&E) shall ensure that amendments reflecting these actions are incorporated into this plan.

HoD-HSE shall suggest training courses & HR-L shall only provide training that all OSR Team personnel who would be handling / operating the OSR equipment and materials undergo specific training and gain confidence in handling and operation of the equipment, as they are to operate.

11.2 Improving contingency plans

After an oil spill has been controlled and cleaned up, or after an exercise, the companies, as well as the local, state, and central agencies that were involved in the emergency or exercise, should assess the usefulness of their contingency plans. Information gathered during the assessment, such as problems that had not been considered in the original plan and the successes or failures of clean-up techniques used, is used to revise and improve contingency plans. Lessons learned during oil spills and exercises are shared with other private, state, regional, and central agencies so that they too may learn from oil spills.

12.0 FURTHER REFERENCES AND OTHER ORGANIZATIONAL

References and other organizational documents to be consulted along with this Oil Spill Contingency Plan are:

(i) Onsite and Off-site Disaster Management Plan of OIL

(ii) Corporate Disaster Management Plan of OIL

(iii) ERDMP wherever applicable.

ANNEXURE-1

CHARACTERISTIC AND BEHAVIOR OF OIL:

Characteristics of Oil being handled by the installation:

OIL is handling crude and gas. The types and characteristics of crude are:

Properties of crude are:

Properties of gas are:

Weathering process:

Rainy weather:

Sunny weather:

Facilities/ Resources at risk:

ANNEXURE – 2

OIL SPILL REPORT FORM

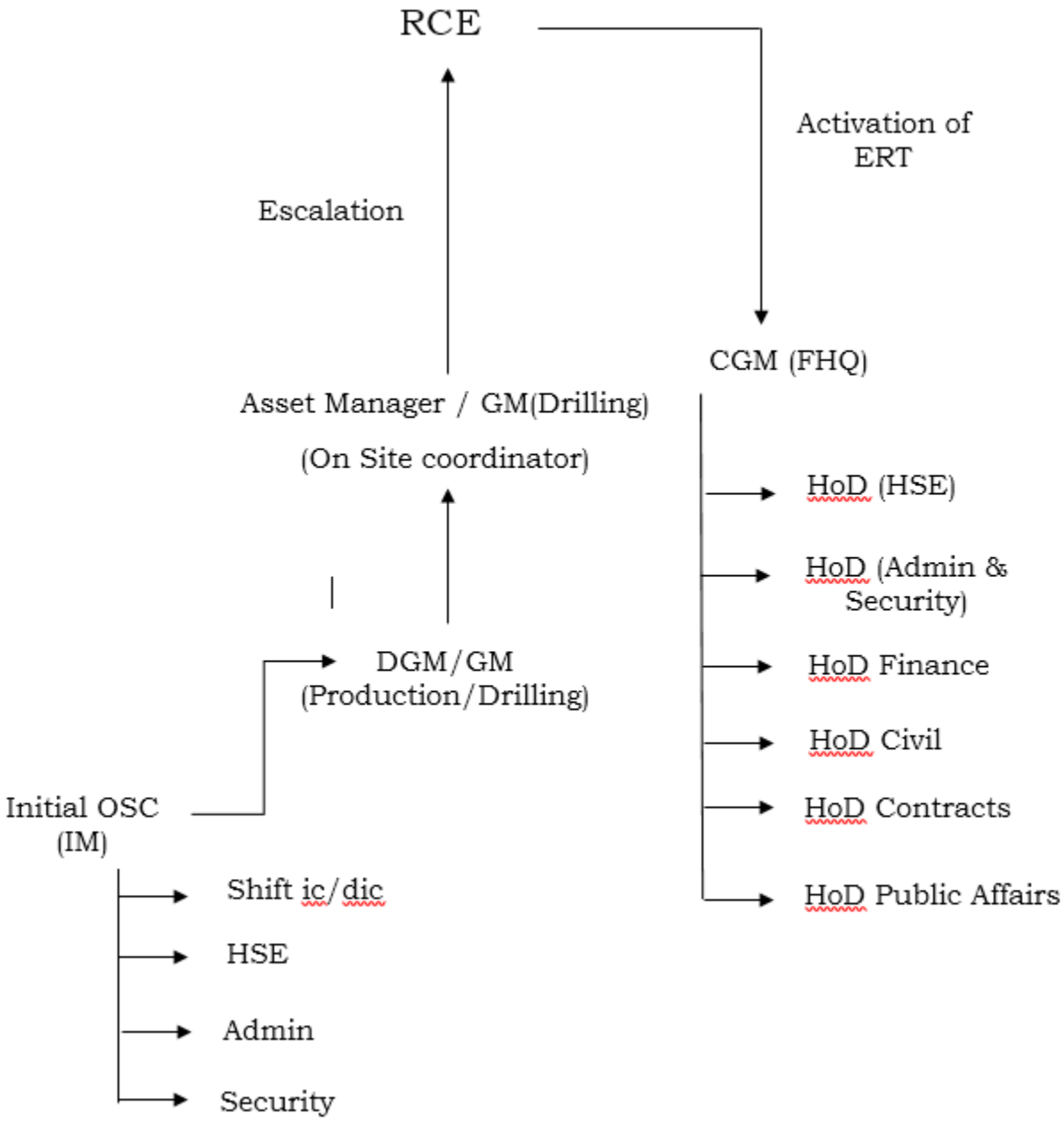
1. Name of person reporting incident:
2. Title / Designation:
3. Company:
4. Telephone / Fax numbers:
5. Date and time:
6. Spill Location:
7. Type and quantity of oil spilled:
8. Cause of Spill:
9. Response to spillage (if any):
10. Any other information:

ANNEXURE – 3

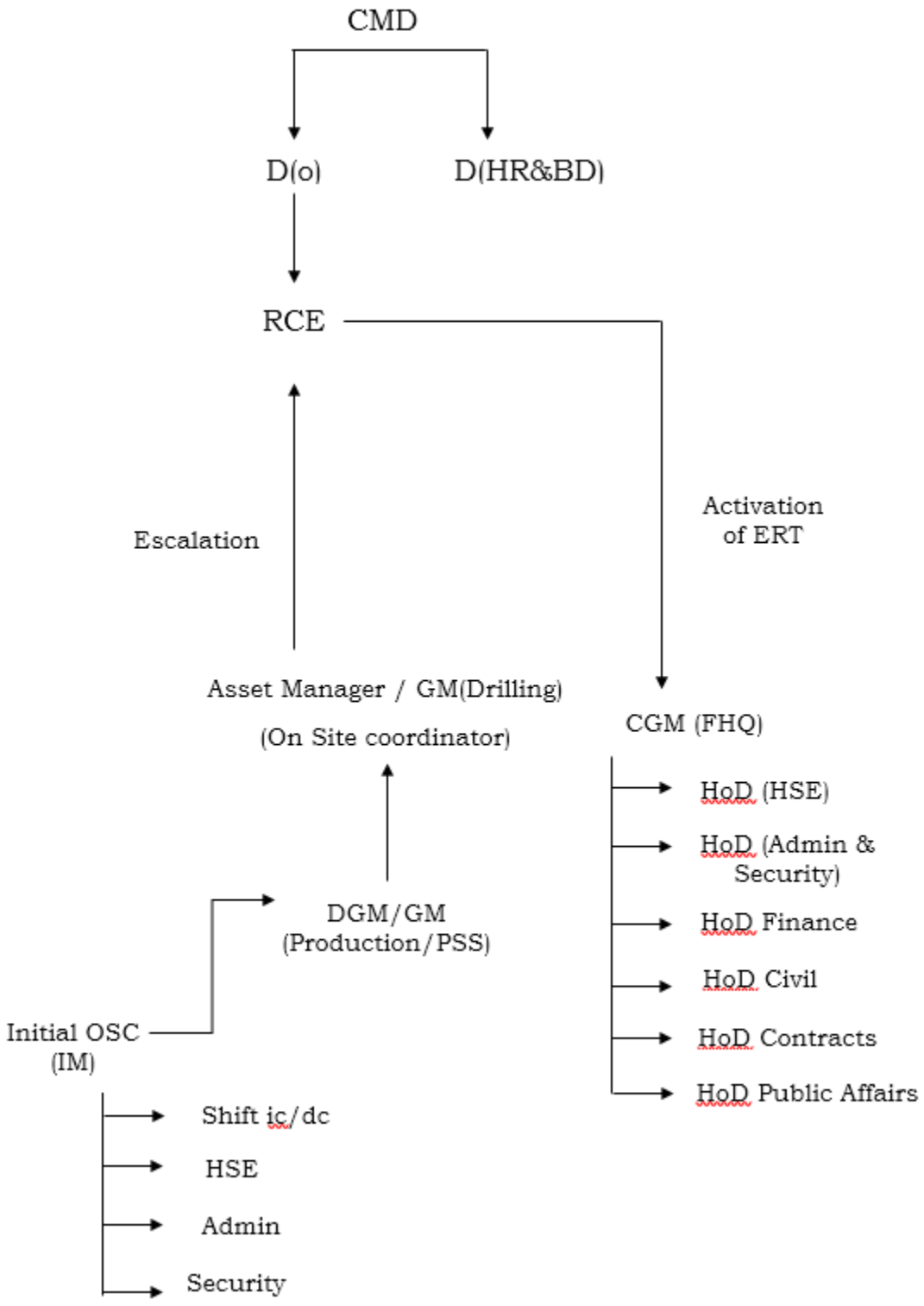
MANAGEMENT REPORT

- Present Location:
- No. of man power deployed:
- Use of OSD (if used):
- Equipment deployed:
- Weather condition:
- Amount of oil recovered:
- Amount of oil transferred for storage/disposal:
- Difficulties encountered:
- Any other:

ANNEXURE – 4
Communication Channel (TIER II)



ANNEXURE – 5
Communication Channel (TIER III)



ANNEXURE – 6

DO'S AND DON'TS

1. DO'S
   - Release only authorized verified written information.
   - Keep accurate records and logs of all enquiries and news coverage.
   - Escort the press and government agencies to the nearest safe place on the Emergency site.
   - Have designated spokesmen. Know what information can and cannot be released.

2. DON'TS
   - Speculate on the causes of the emergency.
   - Speculate on the resumption of normal operations.
   - Speculate on the outside effects of emergencies.
   - Speculate on the value of losses and damage.
   - Interfere with the legitimate duties of media executives
   - Place blame of emergencies.
   - Crowd in the affected area (those who have no role assigned in the disaster plan should stick to their jobs.)

ANNEXURE-7

SPILL RESPONSE METHODS

(***Courtesy: National Oceanic Atmospheric Administration: American Petroleum Institute)***

This section describes methods previously categorized for use during response to oil spills in inland environments and habitats. The methods are used in the protection, recovery, and cleanup phases of a response. The main objective of *protection* is to keep oil out of a habitat or to reduce the amount that enters. *Recovery* consists of removing floating oil from the water surface. The *cleanup* phase consists of removing stranded oil from shoreline habitats via physical, chemical, and enhanced biological means. In most spill response situations, protection and oil recovery are the immediate goals. Combinations of protection, recovery, and cleanup methods are commonly used though these guidelines treat each method separately.

The following section includes a summary of the objective in using the method, a general description of the method, applicable habitat types, conditions under which the methods should be used, biological constraints commonly applied to the use of the method to protect sensitive resources, and the environmental effects expected from the proper use of the method. Some of the methods listed require special authorization for use during a spill; the appropriate agency must be contacted about the need for special approvals. We encourage you to refer to the references listed in Annexure A for further information.

Physical Response Methods

1. Natural Recovery
2. Booming
3. Skimming
4. Barrier/Berm
5. Physical Herding
6. Manual Oil Removal/Cleaning
7. Mechanical Oil Removal
8. Sorbents
9. Vacuum
10. Debris Removal
11. Sediment Reworking
12. Vegetation Removal
13. In-Situ Burning
14. Flooding
15. Low-Pressure, Cold-Water Flushing
16. High-Pressure, Cold-Water Flushing
17. Low-Pressure, Hot-Water Flushing
18. High-Pressure, Hot-Water Flushing
19. Steam Cleaning
20. Sand Blasting

Chemical Response Methods

21 Dispersants

22 Solidifiers

23 Emulsion Treating Agents

24 Chemical Shoreline Pretreatment

25 Visco-Elastic Agents

26 Shoreline Cleaning Agents

27 Herding Agents

Biological Response Methods

28 Nutrient Enrichment

29 Natural Microbial Seeding

1. Natural Recovery

Objective:

No attempt to remove any stranded oil in order to minimize impact to the environment, or because there is no proven effective method for cleanup.

Description:

No action is taken, although monitoring of the incident continues.

Applicable Habitat Types: Can be used on all habitat types.

When to Use:

On remote or inaccessible habitats, when natural removal rates are very fast (e.g., the evaporation of gasoline), when the degree of oiling is light, or when cleanup actions will do more harm than natural removal.

Biological Constraints:

This method may be inappropriate for areas where high numbers of mobile animals (birds, terrestrial mammals) or endangered species use the body of water or shoreline.

Environmental Effects:

Same as from the oil alone.

2. Booming

Objective:

To control the movement of floating oil by containment, diversion, deflection, or exclusion.

Description:

Placement of a device (boom) on the water that forms a barrier to floating oil. *Containment* is deploying a boom to hold the oil until it can be removed. *Deflection* is moving oil away from sensitive areas. *Diversion* is moving oil toward recovery sites that have slower flow, better access, etc. *Exclusion* is placing boom to prevent oil from reaching sensitive areas. The ultimate goal is to recover the oil.

Applicable Habitat Types:

Can be used on all water environments. Booms begin to fail by entrainment when the effective current or towing speed exceeds 0.7 knots perpendicular to the boom.

When to Use:

Nearly all types of response to spills on water involve deploying boom to assist in the recovery of floating oil. Booms must be properly deployed and maintained, including removing accumulated debris. Containment booming of gasoline spills is usually not attempted, because of both fire and inhalation hazards to responders. However, when public health is at risk, booming of gasoline can be attempted with use of foam and extreme safety procedures. Deflection or exclusion booming of sensitive areas to prevent exposure to oil, including gasoline, can be an important protection action.

Biological Constraints:

Placement and maintenance of anchoring points should not cause excessive physical disruption. Boom must be maintained so that it does not trap oil improperly and cause more damage. Traffic to / from boom sites should not disturb wildlife.

Environmental Effects:

Minimal if surface disturbance by cleanup work force traffic is controlled.

3. Skimming

Objective:

To recover floating oil from the water surface.

Description:

Mechanized equipment is placed at the oil / water interface. There are five different types of skimmers: weir, suction, centrifugal, submersion, and oleophilic. They may operate

independently from shore, be mounted on vessels, or be completely self-propelled. All require collection and concentration of floating oil at the skimmer, usually using booms.
Large amounts of water are often collected and must be handled. Adequate storage of recovered oil / water mixture must be available.

Applicable Habitat Types:

Can be used on all water environments. Waves, currents, and debris reduce skimmer efficiencies.

When to Use:

When sufficient amounts of floating oil can be contained. Skimming of gasoline spills is usually not feasible, because of both fire and inhalation hazards to responders. However, when public health is at risk, skimming of gasoline can be attempted using foam and extreme safety procedures.

Biological Constraints:

Traffic to / from skimming sites should not disturb wildlife.

Environmental Effects

Minimal if surface disturbance by cleanup work force traffic is controlled.

4. Barriers/Berms

Objective:

To prevent entry of oil into a sensitive area or to divert oil to a collection area.

Description:

A physical barrier is placed across an area to prevent moving oil from passing. Barriers can consist of earthen berms, filter fences, air bubble barriers, or trenches. When it is necessary for water to pass, because of water volume or downstream needs, underflow dams (for low flow rates) or overflow dams are used.

Applicable Habitat Types:

In streams and dry valleys, where the width and depth of the area to be closed off are relatively small. Also, at the mouths of small creeks along lake shorelines, to prevent oil from being blown upstream.

When to Use:

When the flow of oil threatens sensitive habitats. If the barrier does not fail, it is the most effective strategy to exclude oil from an area.

Biological Constraints:

Place barriers away from sensitive areas, such as spawning sites. Downstream water requirements should be monitored to prevent dewatering of sensitive areas.

Environmental Effects:

May disrupt or contaminate sediments along banks or in channel. Dewatering or poor water quality downstream may affect aquatic organisms.

5. Physical Herding

Objective:

To free oil trapped in debris or vegetation on water; to direct the movement of floating oil towards containment and recovery devices; or to push oil away from sensitive areas.

Description:

Water or air streams and propeller wash generate a current to dislodge trapped oil and herd the released oil to containment and recovery area. May mix oil with water to form emulsified oil.

Applicable Habitat Types:

In lakes and ponds where there are little or no currents, along rivers and streams where the channel or banks are accessible, and in and around manmade structures such as wharves and piers.

When to Use:

In low-current or stagnant waterbodies, to herd oil in booms towards recovery devices. Along rivers and streams, when *mobile* oil has penetrated vegetated banks or accumulated in log jams or other debris, water spray and prop wash can mobilize the oil to flow downstream to collection points.

Biological Constraints:

None.

Environmental Effects:

May generate high levels of suspended sediments and mix them with the oil, resulting in deposition of contaminated sediments in benthic habitats.

6. Manual Oil Removal/Cleaning

Objective:

To remove surface oil with hand tools and manual labor.

Description:

Removal of surface oil by manual means (hands, rakes, shovels, buckets, rags, sorbent pads, etc.) and placing in containers. No mechanized equipment is used.

Applicable Habitat Types:

Can be used on all habitat types.

When to Use:

Light to moderate oiling conditions for stranded oil, or heavy oils on water that have formed semi-solid to solid masses that can be picked up manually.

Biological Constraints:

Foot traffic over sensitive areas (wetlands, floating vegetation, etc.) needs to be restricted or prevented. There may be periods when access should be avoided, such as during bird nesting.

Environmental Effects

Minimal if surface disturbance by crew movement and waste generation is controlled.

7. Mechanical Oil Removal

Objective:

Removal of oil from water surface, bottom sediments, and shorelines with heavy equipment.

Description:

Oil and oiled sediments are collected and removed using backhoes, dredges, graders, bulldozers, draglines, etc. On land, the oiled material is pushed into piles and transported offsite for treatment / disposal. On water, the equipment is operated from shore or barges to recover large amounts of heavy or solidified oil.

Applicable Habitat Types:

On land, possible wherever there are surface sediments accessible to heavy equipment. On water, used in lakes, rivers, etc., where oil accumulates.

When to Use:

When large amounts of oiled materials have to be collected and removed. Along shorelines, care should be taken to remove sediments only to the depth of oil penetration, which can be difficult

with heavy equipment. Should be used carefully where excessive sediment removal may erode the beach. Will need special permission to use in areas with known cultural resources.

Biological Constraints:

Heavy equipment may be restricted in sensitive habitats (e.g., wetlands, soft substrate) or areas containing endangered plants and animals.

Environmental Effects:

The equipment is heavy, with many support personnel required. May be detrimental if excessive sediments are removed without replacement. All organisms in the sediments will be affected, although the need to remove the oil may make this response method the best overall alternative. Runoff from exposed oil and fine-grained oily sediments can affect adjacent bodies of water.

8. Sorbents

Objective:

To remove floating oil by adsorption onto oleophilic material placed in water or at the waterline.

Description:

Sorbent material is placed *on the water surface*, allowing it to absorb oil as it is released by natural processes. Forms include sausage boom, rolls, sweeps, pads, and snares. Efficacy depends on the capacity of the particular sorbent, energy available for lifting oil off the substrate, and stickiness of the oil. Recovery of all sorbent material is mandatory.

Applicable Habitat Types:

Can be used on any habitat or environment type.

When to Use:

When the stranded oil is mobile and transport of oil is expected on or off the site. The oil must be viscous and thick enough to be released by the substrate and absorbed by the sorbent. Often used as a secondary treatment method after gross oil removal and in sensitive areas where access is restricted.

Biological Constraints:

Access for deploying and retrieving sorbents should not affect soft or sensitive habitats or wildlife. Sorbent use should be monitored to prevent overuse and generating large volumes of waste.

Environmental Effects:

Physical disturbance of habitat during deployment and retrieval. When the sorbents are no longer effective, oil may remain in critical habitats during sensitive periods.

9. Vacuum

Objective:

To remove free oil pooled on the substrate or from the water in sheltered areas.

Description:

A vacuum unit with a suction head recovers free oil. The equipment can range from small, portable units that fill individual 55-gallon drums to large supersuckers that are truck-mounted and can lift large rocks. Can be used with booms and flushing systems to move the oil toward the suction head. Removal rates from substrates can be extremely slow.

Applicable Habitat Types:

Any accessible habitat type. May be mounted on barges for water-based operations, on trucks backed to the recovery area, or hand-carried to remote sites.

When to Use:

When free, liquid oil is stranded on the substrate (usually in depressions), trapped in vegetation and is readily accessible, or concentrated on the water surface. Often used instead of skimmers for floating oil recovery. Usually requires shoreline access points. Used in recovery of gasoline spills only with special precautions such as: applying foam to suppress vapors, testing for flammable vapor, locating the vacuum truck a safe distance from spill, and venting the pump discharge safely.

Biological Constraints:

Special restrictions should be identified for areas where foot traffic and equipment operation should be limited, such as soft substrates. Operations in wetlands need to be very closely monitored, with a site-specific list of restrictions.

Environmental Effects:

Minimal if foot and vehicular traffic is controlled and minimal substrate is removed.

10. Debris Removal

Objective:

To remove contaminated debris from the shoreline or water surface.

Description:

Manual or mechanical removal of debris from the shore or water surface. Can include cutting up and removal of oiled logs.

Applicable Habitat Types:

Can be used on any habitat or environment type where safe access is allowed.

When to Use:

When driftwood and debris are heavily contaminated and provide a potential source of chronic oil release, an aesthetic problem, a source of contamination for other organisms in the area, or skimmer clogging problems.

Biological Constraints:

Disturbance to adjacent areas should be minimized. Foot traffic over sensitive areas (wetlands, spawning grounds) needs to be restricted. May be periods when access should be restricted (spawning periods, large numbers of migratory waterbirds).

Environmental Effects:

Physical disruption of substrate, especially when equipment must be deployed to recover a large quantity of debris.

11. Sediment Reworking

Objective:

To rework oiled sediments to break up the oil deposits, increase its surface area, and mix deep subsurface oil layers, which will expose the oil to natural removal processes and enhance the rate of oil degradation.

Description:

The oiled sediments are roto-tilled, disked, or otherwise mechanically mixed using heavy equipment. Along lake shores, oiled sediments may also be pushed lower on the shore to enhance natural cleanup from reworking by wave activity. The process may be aided with high-volume flushing of gravel.

Applicable Habitat Types:

On any sedimentary substrate that can support heavy equipment.

When to Use:

On sand to gravel beaches with subsurface oil, where sediment removal is not feasible (due to erosion concerns or disposal problems). Also where surface oil deposits have started to form

pavements or crusts. Appropriate for sites where the oil is stranded above the normal water level.

Biological Constraints:

Avoid use on shores near water intakes, fish-spawning areas, or near bird-nesting or concentration areas because of the potential for release of oil and oiled sediments into adjacent bodies of water.

Environmental Effects:

Due to the mixing of oil into sediments, this method could further expose organisms that live below the original layer of oil. Repeated mixing over time could delay re-establishing organisms. Runoff from treated sites could contaminate downslope areas.

12. Vegetation Removal

Objective:

To cut and remove oiled vegetation to prevent oiling of wildlife or chronic oil releases.

Description:

Manual cutting of oiled rooted vegetation using weed eaters. Cut vegetation is raked up. Floating vegetation is removed either manually or mechanically.

Applicable Habitat Types:

Wetlands composed of emergent, herbaceous vegetation and floating aquatic vegetation.

When to Use:

When the risk of oiled vegetation contaminating wildlife is greater than the value of the vegetation that is to be cut, and there is no less destructive method that removes or reduces the risk to acceptable levels.

Biological Constraints:

Operations must be strictly monitored to minimize the degree of root destruction and mixing of oil deeper into the sediments. Access in bird-nesting areas should be restricted during nesting seasons.

Environmental Effects:

Vegetation removal will destroy habitat for many animals. Cut areas will have reduced plant growth. Along exposed sections of shoreline, the vegetation may not regrow, eroding and destroying the habitat. Trampled areas will recover much more slowly.

13. In-Situ Burning

Objective:

To remove oil from the water surface or habitat by burning.

Description:

Oil floating on the water surface is collected into slicks at least 2-3 millimeters thick and ignited. The oil can be contained in fire resistant booms, or by natural barriers such as ice or the shore. On land, oil in the habitat is burned, usually when it is on a combustible substrate such as vegetation, logs, and other debris. Oil can be burned off non-flammable substrates using a burn promoter. On sedimentary substrates, it may be necessary to dig trenches for oil to accumulate in pools thick enough to burn efficiently. Heavy and emulsified oils are harder to ignite and sustain an efficient burn, but are still burnable.

Applicable Habitat Types:

On any habitat type except dry muddy substrates where heat may impact the biological productivity of the habitat.

When to Use:

On floating slicks, early in the spill event when the oil can kept thick enough (2-3 millimeters). On land, where there is heavy oil in sites not amenable or accessible to physical removal and it is important to immobilize the stranded oil quickly. In wetlands and mud habitats, a water layer minimizes impacts to sediments and roots. Many potential applications for spills in ice.

Biological Constraints:

Large volumes of smoke are generated, and its effect on nesting birds and populated areas should be evaluated.

Environmental Effects:

Temperature and air quality effects are likely to be localized and short-lived. Toxicological impact from burn residues have not been evaluated. There are few studies on the relative effects of burning oiled wetlands compared to other techniques or natural recovery, but the limited data indicate little impact of burning relative to natural recovery when the soils are saturated.

14. Flooding

Objective:

To wash oil stranded on the land surface to the water's edge for collection.

Description:

A perforated header pipe or hose is placed above the oiled shore or bank. Ambient water is pumped through the header pipe at low pressures and flows downslope to the water. On porous sediments,

water flows through the substrate, pushing loose oil ahead of it (or floats oil to the water's surface) then transports the oil down the slope for pickup. Flow is maintained to remove the majority of free oil. Oil is trapped by booms and is recovered by skimmers or other suitable equipment.

Applicable Habitat Types:

All habitat types.

When to Use:

In heavily oiled areas when the oil is still fluid and loosely adheres to the substrate, and where oil has penetrated into gravel sediments. This method is frequently used with other washing techniques (low- or high-pressure, cold water).

Biological Constraints:

Not appropriate where nearshore sediments contain rich biological communities.

Environmental Effects:

Habitat may be physically disturbed by foot traffic during operations and smothered by sediments washed down the slope. Oiled sediment may be transported to shallow nearshore areas, contaminating them and burying benthic organisms.

15. Low-Pressure, Cold-Water Flushing

Objective:

To remove liquid oil that has adhered to the substrate or manmade structures, pooled on the surface, or become trapped in vegetation.

Description:

Ambient water is sprayed at low pressures (<50 psi), usually from hand-held hoses, to lift oil from the substrate and direct it to the water's edge for pickup. Can be used with a flooding system to prevent released oil from re-adhering to the substrate.

Applicable Habitat Types:

On heavily oiled substrates, riprap, and seawalls where the oil is still liquid. In wetlands and along vegetated banks where free oil is trapped in vegetation.

When to Use:

Where free, liquid oil is stranded onshore or floating in very shallow areas.

Biological Constraints:

Not appropriate where nearshore sediments contain rich biological communities. May need to restrict use so that the oil / water effluent does not drain across sensitive habitats. Use from boats

will prevent foot traffic in soft substrates and vegetation. Released oil must be recovered to prevent further oiling of adjacent areas.

Environmental Effects:

If containment methods are not sufficient, contamination may be flushed into downstream areas. Some trampling of substrate and vegetation is unavoidable.

16. High-Pressure, Cold-Water Flushing

Objective:

To remove oil that has adhered to hard substrates or manmade structures.

Description:

Similar to low-pressure flushing except that water pressure is 100-1,000 psi. High-pressure spray will more effectively remove sticky or viscous oils. If water volumes are low, sorbents are placed directly below the treatment area to recover oil.

Applicable Habitat Types:

Bedrock, manmade structures, and gravel habitats.

When to Use:

When low-pressure flushing is not effective at removing adhered oil, which must be removed to prevent continued oil release or for aesthetic reasons. When a directed water jet can remove oil from hard-to-reach sites.

Biological Constraints:

May need to restrict flushing so that the oil / water effluent does not drain across sensitive habitats. Released oil must be recovered to prevent further oiling of adjacent areas.

Environmental Effects:

May drive oil deeper into the substrate if water jet is improperly applied. If containment methods are not sufficient, contamination may be flushed into downstream areas. Some trampling of substrate and vegetation is unavoidable.

17. Low-Pressure, Hot-Water Flushing

Objective:

To remove non-liquid oil that has adhered to the substrate or manmade structures, or pooled on the surface.

Description:

Hot water (90°F up to 170°F) is sprayed with hoses at low pressures (<50 psi) to liquefy and lift oil from the substrate and direct it to the water's edge for pickup. Used with flooding to prevent released oil from re-adhering to the substrate.

Applicable Habitat Types:

On heavily oiled bedrock, sand to gravel substrates, and manmade structures.

When to Use:

Where heavy, but relatively fresh oil is stranded onshore. The strategy is to heat the oil to above its pour point, so it will flow. Less effective on sticky oils.

Biological Constraints:

Avoid wetlands or nearshore sediments with rich biological communities. Use should be restricted so that the hot oil / water effluent does not contact sensitive habitats. Boat use will prevent foot traffic in soft substrates and vegetation. Released oil must be recovered to prevent further oiling of adjacent areas.

Environmental Effects:

Hot water can kill all organisms in direct contact. If containment methods are not sufficient, contamination may be flushed into downstream areas. Some trampling of substrate and vegetation is unavoidable during the response.

18. High-Pressure, Hot-Water Flushing

Objective:

To mobilize weathered and viscous oil adhered to surfaces.

Description:

Hot water (90°F up to 170°F) is sprayed with hand wands at pressures greater than 100 psi. Used without water flooding, this procedure requires immediate use of vacuum or sorbents to recover the oil / water runoff. When used with a flooding system, the oil is flushed to the water surface for collection by skimmers or sorbents.

Applicable Habitat Types:

Gravel habitats, bedrock, and manmade structures.

When to Use:

When oil has weathered to the point that even warm water at low pressure no longer

effectively removes oil, to prevent continued release of oil. To remove viscous oil from manmade structures for aesthetic reasons.

Biological Constraints:

Use should be restricted so that the oil / water effluent does not drain across sensitive habitats (damage can result from exposure to oil, oiled sediments, and hot water). Released oil must be recovered to prevent further oiling of adjacent areas.

Environmental Effects:

All attached organisms and plants in the direct spray zone will be removed or killed, even when used properly. Oiled sediment may be transported to shallow nearshore areas, contaminating them and burying benthic organisms.

19. Steam Cleaning

Objective:

To remove heavy residual oil from solid substrates.

Description:

Steam or very hot water (170°F to 212°F) is sprayed with hand wands at high pressure. Water volumes are very low compared to flushing methods.

Applicable Habitat Types:

Manmade structures such as seawalls and riprap.

When to Use:

When heavy oil residue remaining on a shoreline needs to be cleaned for aesthetic reasons, and when hot-water wash is not effective.

Biological Constraints:

Not to be used in areas of soft substrate, vegetation, or high biological abundance directly on or below the structure.

Environmental Effects:

Complete destruction of all organisms in the spray zone. Difficult to recover all released oil.

20. Sand Blasting

Objective:

To remove heavy residual oil from solid substrates.

Description:

Use of sandblasting equipment to remove oil from the substrate. May include recovery of used (oiled) sand in some cases.

Applicable Habitat Types:

Manmade structures such as seawalls and riprap.

When to Use:

When heavy oil residue is remaining on the shoreline, which needs to be cleaned for aesthetic reasons, and even steam cleaning is not effective.

Biological Constraints:

Not to be used in areas of soft substrate, vegetation, or high biological abundance directly below or adjacent to the structures.

Environmental Effects:

Complete destruction of all organisms in the blast zone. Possible smothering of downstream organisms with sand. When the used sand is not recovered, introduces oiled sediments into the adjacent habitat.

21. Dispersants

Objective:

To remove floating oil from the water surface and disperse it into the water column, to reduce impact to sensitive shoreline habitats and animals that use the water surface.

Description:

Specially formulated products containing surface-active agents are sprayed at concentrations of about 5 percent by volume of the oil onto the slicks by aircraft or from boats. The products can be applied undiluted or mixed with water. The dispersants reduce the oil / water surficial tension and decrease the energy needed for the slick to break into small particles and mix into the water column. Some turbulence is needed to mix the dispersant into the oil and to mix the treated oil into the water.

Applicable Habitat Types:

Open water and large rivers with sufficient depth and volume for mixing and dilution.

When to Use:

When the impact of the floating oil has been determined to be greater than the impact of mixing of oil into the water column.

Biological Constraints:

Use in shallow water could affect benthic resources. The potential impact of dispersed oil on water intakes should be thoroughly considered prior to use.

Environmental Effects:

May increase effects on water-column organisms, particularly plankton and larval fish. Dispersion will only be partially effective, so some water surface impact will still occur.

22. Emulsion-Treating Agents

Objective:

To break or destabilize emulsified oil into separate oil and water phases. Can also be used to prevent emulsion formation.

Description:

Emulsion-treating agents are surfactants that are applied to emulsified oil at low concentrations (0.1-2 percent). They can be injected into skimmer reservoirs to break the emulsion to separate excess water from recovered oil. They also can be sprayed (similar to dispersants) directly onto slicks to break or prevent emulsions.

Applicable Habitat Types:

On all water environments where emulsified oil is present.

When to Use:

For recovered oil, where storage capacities are very limited, to separate the oil and water so that the water can be treated and discharged. On floating slicks, where emulsified oil can reduce skimmer efficiency.

Biological Constraints:

There is insufficient information to evaluate at this time.

Environmental Effects:

Because this is a new application approach, there are very few data available to evaluate environmental effects. Effective dosages are one to two orders of magnitude lower than dispersants. Environmental concerns regarding application to slicks are: how treatment might adversely change the physical or chemical properties of the oil; whether the oil will be more readily dispersed; and how the treated oil will behave upon contact with birds, mammals, and shorelines.

23. Visco-Elastic Agents

Objective:

To impart visco-elastic properties to floating oil and increase skimming rates.

Description:

Chemical agent is applied as a liquid spray or a slurry onto the oil in the proper dosage. Some mixing is required and is usually provided by the water spray during application. Treated oil is rendered visco-elastic, but still fluid, gelatinous, or semi-solid; there is no chemical change in the oil. The primary purpose is to increase the efficiency in skimmer removal rates while minimizing amount of water. Increases the recovery by drum skimmers, but can clog weir-type skimmers.

Applicable Habitat Types:

On all water environments where oil can be contained for recovery with skimmers. Not for use near wetlands or debris because of an increase in adhesive behavior of the treated oil.

When to Use:

When recovery efficiency of skimmers needs to be increased. Must be used with booming or other physical containment. Not for use on heavy oils, which are already highly viscous.

Biological Constraints:

Not suitable for vegetated shores or where there is extensive debris mixed in the oil. Should be avoided when birds or other wildlife that may be more adversely affected by the treated oil cannot be kept away from the treated oil.

Environmental Effects:

May enhance the smothering effect of oil on organisms. Therefore, the treatment should be considered only where recovery of the treated oil is likely.

24. Herding Agents

Objective:

To collect or herd oil into a smaller area and thicker slick in order to increase recovery. Also can be used to herd oil away from sensitive areas or used inside containment booms when it is necessary to move the boom.

Description:

Chemical agents, which are insoluble surfactants and have a high spreading pressure, are applied in small quantities (1-2 gallons per lineal mile) to the clean water surrounding the edge of a fresh

oil slick. They contain the oil, prevent spreading, but do not hold the spill in place. Hand-held, vessel-mounted, or aircraft systems can be used. Must be applied early in spill, when oil is still fluid.

Applicable Habitat Types:

On all stillwater environments.

When to Use:

Potential use for collection and protection. For collection, used to push slicks out from under docks and piers where it has become trapped, or in harbors, where the equipment is readily accessible for use early in the spill. For protection in low-current areas, use to push slicks away from sensitive resources such as wetlands. Not effective in fast currents, rough seas, or rainfall.

Biological Constraints:

Not suitable for use in very shallow water or fish-spawning areas.

Environmental Effects:

Direct acute toxicity to surface layer organisms possible, though available products vary greatly in their aquatic toxicity.

25. Solidifiers

Objective:

To change the physical state of spilled oil from a liquid to a solid to reduce impact of oil to shorelines.

Description:

Chemical agents (polymers) are applied to oil at rates of 10-45 percent, solidifying the oil in minutes to hours. Various broadcast systems, such as leaf blowers, water cannons, or fire suppression systems, can be modified to apply the product over large areas. Can be applied to both floating and stranded oil.

Applicable Habitat Types:

All water environments, bedrock, sediments, and manmade structures.

When to Use:

When immobilization of the oil is desired, to prevent refloating from a shoreline, penetration into the substrate, or further spreading. However, the oil may not fully solidify unless the product is well mixed with the oil, and may result in a mix of solid and untreated oil.
Generally not used on spills of heavy oil because the product cannot be readily mixed into viscous

oils.

Biological Constraints:

Must be able to recover all treated material.

Environmental Effects:

Available products are insoluble and have very low aquatic toxicity. Unrecovered solidified oil may have longer impact because of slow weathering rates. Physical disturbance is likely during application and recovery.

26. Chemical Shoreline Pre-treatment

Objective:

To prevent oil from adhering to or penetrating the substrate.

Description:

Various types of film-forming agents or wetting agents are applied to habitats in advance of the oil to prevent oil adhesion and penetration. Application must occur just prior to stranding of the oil so timing is critical. It should be noted that there are no products now being sold as shoreline pretreatment agents.

Applicable Habitat Types:

Bedrock, sand and gravel habitats, and manmade structures.

When to Use:

When oil is projected to impact an applicable shoreline, particularly those that have high recreational or aesthetic value. However, lack of information on the availability, effects, and effectiveness of products greatly limits their use.

Biological Constraints:

Unknown at this time but there are likely to be constraints based on product toxicity and persistence.

Environmental Effects:

Unknown at this time since there are no commercially available products. There are concerns about toxicity and smothering since these products could be applied directly on clean substrates.

27. Shoreline Cleaning Agents

Objective:

To increase the efficiency of oil removal from contaminated substrates.

Description:

Special formulations are applied to the substrate, as a presoak and / or flushing solution, to soften or lift weathered or heavy oils to enhance flushing methods. The intent is to lower the water temperature and pressure required to mobilize the oil from the substrate during flushing.

Applicable Habitat Types:

On any habitat where water flooding and flushing procedures are applicable.

When to Use:

When the oil has weathered to the point where it cannot be removed using warm to hot water. This approach may be most applicable where flushing effectiveness decreases as the oil weathers.

Biological Constraints:

The released oil should be recovered rather than dispersed into the water column. Use may be restricted where suspended sediment concentrations are high, near wetlands, and near sensitive nearshore resources.

Environmental Effects:

If more oil is dispersed into the water column, there could be more oil sorbed onto suspended sediments and transferred to nearshore habitats, particularly along sheltered shorelines. The toxicity of shoreline cleaners is similar to the toxicity of dispersants.

28. Nutrient Enrichment

Objective:

To speed the rates of natural microbial degradation of oil by adding nutrients (generally nitrogen and phosphorus).

Description:

Nutrients are applied to the habitat in one of several methods: soluble inorganic formulations, which are dissolved in water and applied as a spray, requiring frequent applications; slow-release formulations, which are applied as a solid; and oleophilic formulations, which adhere to the oil itself and are sprayed directly on the oiled areas.

Applicable Habitat Types:

Could be used on any habitat type where safe access is allowed and nutrients are deficient.

When to Use:

On moderately to heavily oiled substrates, after other techniques have been used to remove as much oil as possible; on lightly oiled shorelines where other techniques are destructive or not effective; and where nutrients limit natural degradation. Most effective on diesel-type and medium oils that do not have large amounts of high molecular weight, slowly degrading components. Less effective where oil residues are thick. Not considered for gasoline spills, which will be completely removed by evaporation at faster timeframes than by microbial degradation.

Biological Constraints:

Not suitable in shallow water or restricted waterbodies where nutrient overloading may lead to eutrophication, or where toxicity of nutrients, particularly ammonia, is of concern.
Contact toxicity of oleophilic formulations may restrict areas of direct application. Toxicity tests should be evaluated carefully, as other chemicals in the product could be toxic to aquatic organisms.

Environmental Effects:

Very little information is available on effects in freshwater.

29. Natural Microbe Seeding

Objective:

To speed the rates of microbial degradation of oil by adding live microbes with enhanced oil-degrading abilities.

Description:

Formulations containing hydrocarbon-degrading microbes (usually with fertilizers) are added to the oiled area. The argument is made that indigenous microorganisms will be killed by the oil or will be slow to degrade the oil, so new microbial species need to be added to speed the process of biodegradation. Little information is currently available to show whether natural microbe seeding increases biodegradation more than nutrient enrichment alone.

Applicable Habitat Types:

Could be used on any habitat type where safe access is allowed and additional microbes are needed.

When to Use:

On moderate to heavily oiled substrates, after other techniques have been used to remove as much

oil as possible; on lightly oiled shorelines where other techniques are destructive or not effective; and where existing microorganisms are not present or effective. Most effective on diesel-type and medium oils that do not have large amounts of high molecular weight, slowly degrading components. Less effective where oil residues are thick. Not considered for gasoline spills, which will evaporate faster than they would degrade.

Biological Constraints:

If product contains fertilizers, not suitable in shallow water or restricted bodies of water where nutrient overloading may lead to eutrophication, or where toxicity of nutrients, particularly ammonia, is of concern. Toxicity tests should be evaluated carefully, as other chemicals in the product could be toxic to aquatic organisms

Environmental Effects:

Very little information is available on effects in freshwater.

SPECIAL CONSIDERATIONS

This section summarizes the following selected topics of special concern in freshwater habitats:

- Public health concerns;
- Conditions under which oil might sink;
- Oil behavior in ice conditions;
- Oil behavior and cleanup in permafrost; and
- Firefighting foam.

PUBLIC HEALTH CONCERNS

The human-health concerns associated with oil spills entail risks to the public from exposure to the oil and to responders during cleanup activities. In freshwater areas, the risks of exposure of the public are of special concern, because of the potential for contamination of public drinking water supplies and the proximity of populated areas to spill sites. Human- health risks from spilled oil occur along three potential pathways: ingestion, dermal contact, and inhalation. Ingestion pathways include drinking contaminated water and eating tainted food (e.g., fish, birds, and mammals).

Water intakes in relatively shallow lakes and rivers may be highly susceptible to contamination during oil spills. Response procedures may thus include temporarily closing the intakes, protectively booming the intake area, bringing on-line additional treatment equipment at the water-treatment plant, and / or monitoring water quality for the contaminants of concern. The low-molecular weight, aromatic compounds (benzene, ethylbenzene, toluene, and xylene) are

usually of greatest concern, because of their much higher water solubility, compared to the other compounds in oil. These four compounds usually represent 70-95 percent of the water-soluble fraction (typically about 25-40 ppm) in crude oils. Water-treatment plants that have granular activated carbon filtration systems can remove low levels of oil contamination, especially the aromatic compounds, which can cause taste and odor problems at very low concentrations.

The potential for direct contact of oil on skin is greatest during cleanup, and measures should be taken to keep the public away from all spill response operations. Inhalation of volatile compounds from spills of crude oil and light, refined products poses a risk to the public in adjacent areas. However, these risks are greatest with long-term exposure.

Fire risks are mostly associated with volatile, refined products such as gasoline. Response operations at these spills must be conducted with caution. Often, the best response to spills of volatile products is to allow the product to evaporate, while diverting the slicks away from populated areas and sensitive habitats.

CONDITIONS UNDER WHICH OIL MIGHT SINK IN FRESH WATER

Most oil spills result in floating oil slicks. There are very specific conditions that can cause an oil spill to sink rather than float in freshwater settings.

1 The oil has a specific gravity greater than 1.00 at the ambient temperature.

Specific gravity is the ratio of the density of a material to freshwater. Although nearly all crude oils and most refined products have a specific gravity less than 1.00 and will therefore float, some of the residual refined products (e.g., very heavy fuel oils, asphalt) are so heavy that their specific gravity is greater than 1.00. Spills of these oils can sink immediately and flow along with the bottom currents or as droplets in the water column. However, very small changes in water density can refloat sinking oil. There have been several spills in the freshwater sections of a river where the oil originally sank and moved along the bottom. However, at the fresh / salt mixing zone, where the water density increased with salinity, some of the oil rose to the surface. In other spills, oil has been reported to sink with very cold temperatures at night, only to refloat after the water absorbs heat from the sun.

2 The oil has a specific gravity just under 1.00 but forms a very stable emulsion.

Water-in-oil emulsions can contain up to 80 percent water, which increases the specific gravity accordingly. Also, during the emulsification process, some sediment can be incorporated into the emulsion, either from the suspended sediments in the water mixed into the oil, or those adhered to the floating slick. Only a very small amount of sediment is needed to sink oil. Usually residual refined products (e.g., No. 6 fuel oil, Bunker C) have a specific gravity of 0.99 or greater.

3 The oil comes ashore, picks up sediment, and then is eroded from the shore.

Medium and heavy oils can adsorb to sediment when they strand, making the mixture heavier than water. However, the oil / sediment mixture must be eroded from the shoreline, usually by waves, which tend to break up the oil slicks. The oiled sediment can be deposited in the nearshore zone, but as small tarballs or widely scattered contaminated sediment, rather than a layer of sunken oil. In some instances, the tarballs can stick to each other, forming a tar mat just offshore.

4 The oil is a blend of light and heavy refined products, and the light fraction is lost by evaporation.

Many intermediate fuel oils are actually mixtures of No. 2 and No. 6 oils. If the spill conditions were such that the light oil component completely evaporated, and the heavy oil was particularly heavy, the weathered oil might sink.

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Annexure-7

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OIL INDIA

ENVIRONMENT POLICY

1. Purpose

Oil India Limited ("Oil India") is committed to achieve excellence in environmental management. Our mission is to minimize environmental impacts throughout the entire lifecycle of our operations by proactive natural resource conservation and pollution prevention measures, both on-site and off-site. This policy establishes a forward-looking vision for sustainable environmental practices across all facets of our business activities.

2. Scope

This policy applies to all entities within Oil India Limited, including subsidiaries, joint ventures, managed sites, licensees, outsourcing partners, corporate offices, and research facilities. It extends to all employees, contractors, business partners, suppliers, service providers, and other key stakeholders during due diligence, acquisitions, and mergers.

The policy covers the entire operational lifecycle of our projects—from planning through evaluation, operation, and closure. It includes all operations across upstream, midstream, downstream, alternative energy, and any other portfolios. Environmental parameters include, but are not limited to, greenhouse gas emissions, energy consumption, water consumption, resource efficiency, pollution, waste, and biodiversity, etc.

3. Objectives of the Environmental Policy

Oil India has established this policy to act as a guidance towards its commitment to becoming an environmentally responsible organization.

4. Commitments of the policy

Strengthen Environmental Management Approach

- **Regulatory Compliance:** Adhere to all relevant Central, State and any other environmental laws, regulations, and statutory requirements.
- **Environmental Considerations:** Integrate environmental considerations and performance metrics in capital allocation and operational decision-making processes.
- **Environmental Management Systems:** Develop, implement, and continually enhance environmental management systems aligned with ISO 14001 or equivalent frameworks to meet world-class standards.
- **Risk Assessment and Mitigation:** Regularly assess environmental risks, manage potential impacts, implement effective mitigation and adaptation strategies, and adopt proactive safeguards like insurance for contingencies.
- **Review and Continuous Monitoring:** Periodically review and assess environmental performance against this policy to ensure effective management of environmental impacts.
- **Continuous Improvement and Innovation:** Drive continuous improvements in environmental performance by adopting the best available practices and technologies and investments in R&D.

Enhance Environmental Performance

- **Sustainable Resource Management:** Adopt circular economy principles to strengthen energy, water, waste, biodiversity, and other natural resource management practices.
- **Biodiversity:** Conduct biodiversity risk assessments, apply the mitigation hierarchy to avoid or minimize biodiversity and nature-based risks and promote afforestation.
- **Climate Action:** Undertake immediate and long-term actions to reduce GHG emissions, transition to low-carbon energy, improve air quality, and achieve net-zero emissions for Scope 1 and Scope 2, while mitigating climate risks.

Ensure Transparency and Accountability

- **Target Setting:** Establish clear objectives and targets aimed at minimizing, reducing, or mitigating environmental impacts by applying the mitigation hierarchy (prioritize prevention, reduce, reuse, recycle, and responsible management) and ensuring transparent reporting thereof.
- **Sustainability-linked KPIs:** Key Performance Indicators (KPIs) of Executives will be tied to the achievement of environmental targets, ensuring accountability in driving sustainability initiatives.

Setup Enabling Ecosystem

- **Stakeholder Engagement:** Enhance awareness among internal and external stakeholders, including business partners and suppliers, on potential environmental impacts and their responsible management. Engage with local communities, regulators, and other stakeholders to ensure transparency and build trust in our environmental stewardship.
- **Collaboration & Partnership:** Foster partnerships with national and international organizations to enhance environmental performance and build environmental resilience.
- **Sensitization and training:** Sensitize/ train employees, contractors and suppliers, regarding the importance of minimizing environmental risks and understanding the environmental consequences of their actions.
- **Transparency and Reporting:** Regularly communicate environmental management efforts, progress, and performance to all stakeholders through public disclosures, including sustainability reports. Seek external assurance of environmental data and ensure alignment with recognized global reporting standards.

5. Responsibility & Review

Oil India Limited is responsible and committed to implement this policy. Director-Operations, along with Board level Sub-Committee, are responsible for the oversight and enforcement of the Policy. ED-HSE & ESG is responsible for full implementation and adherence to associated standards. The Sub-Committee will review this policy annually and propose necessary revisions if required.

Ranjit Rath

Dr. Ranjit Rath
Chairman & Managing Director

Effective Date:- 18/12/2024

ऑयल इंडिया
OIL INDIA

पर्यावरण नीति

1. उद्देश्य

ऑयल इंडिया लिमिटेड ("ऑयल इंडिया") पर्यावरण प्रबंधन में उत्कृष्टता प्राप्त करने के लिए प्रतिबद्ध है। हमारा मिशन प्राकृतिक संसाधनों का संरक्षण करके और हमारे कार्यस्थलों पर और उसके बाहर प्रदूषण को रोककर हमारे प्रचालन के हर चरण में पर्यावरणीय प्रभावों को कम करना है। यह नीति हमारी सभी व्यावसायिक गतिविधियों में स्थायी पर्यावरणीय प्रथाओं को अपनाने के लिए एक स्पष्ट दृष्टिकोण निर्धारित करती है।

2. कार्यक्षेत्र

यह नीति ऑयल इंडिया लिमिटेड के सभी निकायों पर लागू होती है, जिसमें सहायक कंपनियां, संयुक्त उद्यम, प्रबंधित साइटें, लाइसेंसधारी, आउटसोर्सिंग भागीदार, कॉर्पोरेट कार्यालय और अनुसंधान सुविधाएं शामिल हैं। यह सभी कर्मचारियों, ठेकेदारों, व्यावसायिक भागीदारों, आपूर्तिकर्ताओं, सेवा प्रदाताओं और अन्य प्रमुख हितधारकों पर विशेष रूप से जांच-पड़ताल, अधिग्रहण और विलय के दौरान लागू होती है।

यह नीति हमारी परियोजनाओं के संपूर्ण परिचालन चक्र को कवर करती है - योजना बनाने से लेकर आकलन, प्रचालन और समापन तक। इसमें अपस्ट्रीम, मिडस्ट्रीम, डाउनस्ट्रीम, वैकल्पिक ऊर्जा और किसी भी अन्य पोर्टफोलियो के सभी उपकरण शामिल हैं। पर्यावरणीय मापदंडों में ग्रीनहाउस गैस उत्सर्जन, ऊर्जा खपत, जल खपत, संसाधन दक्षता, प्रदूषण, अपशिष्ट और जैव विविधता आदि शामिल हैं, लेकिन यह इन्हीं तक सीमित नहीं हैं।

3. पर्यावरण नीति के उद्देश्य

ऑयल इंडिया ने पर्यावरण के प्रति जिम्मेदार संगठन बनने की अपनी प्रतिबद्धता को दिशा देने के लिए यह नीति बनाई है।

4. नीतिगत प्रतिबद्धताएँ

पर्यावरण प्रबंधन दृष्टिकोण को सुदृढ़ करना

- **विनियामक अनुपालन:** सभी प्रासंगिक केंद्रीय, राज्य और अन्य पर्यावरणीय कानूनों, विनियमों और सांविधिक आवश्यकताओं का पालन करना।
- **पर्यावरणीय विचार:** पूंजी आवंटन और परिचालन निर्णय लेने की प्रक्रियाओं में पर्यावरणीय विचारों और प्रदर्शन मेट्रिक्स को एकीकृत करना।
- **पर्यावरण प्रबंधन प्रणालियाँ:** विश्व स्तरीय मानकों को पूरा करने के लिए आईएसओ 14001 या समकक्ष ढांचे के अनुरूप पर्यावरण प्रबंधन प्रणालियों का विकास, कार्यान्वयन और निरंतर संवर्द्धन करना।
- **जोखिम मूल्यांकन और उपशमन:** पर्यावरणीय जोखिमों का नियमित मूल्यांकन करना, संभावित प्रभावों का प्रबंधन करना, प्रभावी उपशमन और अनुकूलन रणनीतियों को लागू करना, तथा आकस्मिकताओं के लिए बीमा जैसे सक्रिय सुरक्षा उपाय अपनाना।
- **समीक्षा और सतत निगरानी:** पर्यावरणीय प्रभावों का कारगर प्रबंधन सुनिश्चित करने के लिए इस नीति के अनुसार पर्यावरणीय प्रदर्शन की समय-समय पर समीक्षा और आकलन करना।
- **निरंतर सुधार और नवाचार:** सर्वोत्तम प्रथाओं, उन्नत प्रौद्योगिकियों का उपयोग करके तथा अनुसंधान एवं विकास में निवेश करके पर्यावरण प्रदर्शन में निरंतर सुधार सुधार लाना।

पर्यावरण प्रदर्शन को बढ़ाना

- **स्थायी संसाधन प्रबंधन:** ऊर्जा, जल, अपशिष्ट, जैव विविधता और अन्य प्राकृतिक संसाधन प्रबंधन प्रथाओं को सुदृढ़ करने के लिए चक्रीय अर्थव्यवस्था सिद्धांतों को अपनाना।
- **जैव विविधता:** जैव विविधता के लिए खतरों का आकलन करना, प्रकृति को होने वाले नुकसान से बचने या उसे कम करने के लिए कदम उठाना तथा वनरोपण को बढ़ावा देना।
- **जलवायु कार्रवाई:** जलवायु जोखिमों का प्रबंधन करते हुए ग्रीनहाउस गैस उत्सर्जन को कम करना, स्वच्छ ऊर्जा अपनाना, वायु गुणवत्ता में सुधार लाना तथा स्कोप 1 और स्कोप 2 के लिए नेट-जीरो उत्सर्जन तक पहुंचने के लिए त्वरित और दीर्घकालिक कदम उठाना।

पारदर्शिता और जवाबदेही सुनिश्चित करना

- **लक्ष्य निर्धारण:** चरण-दर-चरण दृष्टिकोण (रोकथाम, कमी, पुन: उपयोग, रिसाइकल और जिम्मेदार प्रबंधन को प्राथमिकता देना) को लागू करके और इसके पारदर्शी रिपोर्टिंग को सुनिश्चित करके पर्यावरणीय प्रभावों को न्यूनतम करने, घटाने या कम करने के उद्देश्य से स्पष्ट उद्देश्यों और लक्ष्यों को स्थापित करना।
- **स्थिरता-संबंधी केपीआई:** कार्यपालकों के प्रमुख निष्पादन संकेतकों (केपीआई) को पर्यावरणीय लक्ष्यों की प्राप्ति से जोड़ा जाएगा, जिससे स्थिरता संबंधी पहलों को आगे बढ़ाने में जवाबदेही सुनिश्चित होगी।

सहायक पारिस्थितिकी तंत्र बनाना

- **हितधारकों की सहभागिता:** संभावित पर्यावरणीय प्रभावों और उनके जिम्मेदार प्रबंधन के बारे में, व्यावसायिक भागीदारों और आपूर्तिकर्ताओं सहित आंतरिक और बाहरी हितधारकों के बीच जागरूकता बढ़ाना। पारदर्शिता सुनिश्चित करने और हमारे पर्यावरणीय प्रबंधन में विश्वास बनाने के लिए स्थानीय समुदायों, विनियामकों और अन्य हितधारकों के साथ सहभागिता करना।
- **सहयोग एवं भागीदारी:** पर्यावरणीय प्रदर्शन को बढ़ाने और पर्यावरणीय लचीलापन बनाने के लिए राष्ट्रीय और अंतर्राष्ट्रीय संगठनों के साथ साझेदारी को बढ़ावा देना।
- **संवेदनशीलता और प्रशिक्षण:** कर्मचारियों, ठेकेदारों और आपूर्तिकर्ताओं को पर्यावरणीय जोखिमों को न्यूनतम करने के महत्व और उनके कार्यों के पर्यावरणीय परिणामों को समझने के संबंध में संवेदनशील बनाना/ प्रशिक्षित करना।
- **पारदर्शिता और रिपोर्टिंग:** स्थिरता रिपोर्टों सहित पर्यावरण प्रबंधन प्रयासों, प्रगति और प्रदर्शन को सभी हितधारकों को सार्वजनिक रूप से नियमित रूप से साझा करना। बाहरी समीक्षाओं के माध्यम से पर्यावरणीय डेटा को सत्यापित करना और वैश्विक रिपोर्टिंग मानकों का पालन करना।

5. जिम्मेदारी और समीक्षा

ऑयल इंडिया लिमिटेड इस नीति का पालन करने और उसे लागू करने के लिए प्रतिबद्ध है। निदेशक-प्रचालन, बोर्ड-स्तरीय उप-समिति के साथ मिलकर नीति की देखरेख और उसे लागू करने के लिए जिम्मेदार हैं। कार्यकारी निदेशक-एचएसई और ईएसजी संबंधित मानकों का पूर्ण कार्यान्वयन और अनुपालन सुनिश्चित करने के लिए जिम्मेदार हैं। उप-समिति हर साल इस नीति की समीक्षा करेगी और किसी भी आवश्यक संशोधन का सुझाव देगी।

रंजीत रथ

डॉ. रंजीत रथ
अध्यक्ष एवं प्रबंध निदेशक

प्रभावी तिथि:- 18/12/2024



আঁয়ল ইণ্ডিয়া
OIL INDIA

পৰিৱেশ সম্বন্ধীয়
নীতি

১) উদ্দেশ্য

পৰিৱেশ ব্যৱস্থাপনাত উৎকৃষ্টতা আনিবৰ বাবে অইল ইণ্ডিয়া লিমিটেড প্ৰতিশ্ৰুতিবদ্ধ। আমাৰ উদ্দেশ্য হৈছে, অন-ছাইট আৰু অফ-ছাইট দুয়ো ক্ষেত্ৰতে সক্ৰিয় প্ৰাকৃতিক সম্পদ সংৰক্ষণ আৰু প্ৰদূষণ প্ৰতিৰোধ ব্যৱস্থাৰ জৰিয়তে আমাৰ সঞ্চালন কাৰ্য্যৰ সমগ্ৰ কালছোৱাত পৰিৱেশ সম্বন্ধীয় প্ৰভাৱ হ্ৰাস কৰা। এই নীতিয়ে আমাৰ ব্যৱসায়িক কাৰ্য্যকলাপৰ সকলো দিশতে বহনক্ষম পৰিৱেশ সম্বন্ধীয় পদ্ধতিসমূহৰ বাবে এক প্ৰগতিশীল দৃষ্টিভংগী প্ৰতিষ্ঠা কৰে।

২) পৰিসৰ

এই নীতি অইল ইণ্ডিয়া লিমিটেডৰ ভিতৰৰ সকলো সত্তাতে প্ৰযোজ্য, য'ত সহায়ক উদ্যোগ, যৌথ উদ্যোগ, পৰিচালিত ক্ষেত্ৰ, অনুজ্ঞাপত্ৰধাৰী, বাহ্যিক সহযোগী, কৰ্পৰেট কাৰ্য্যালয় আৰু গৱেষণা প্ৰতিষ্ঠান অন্তৰ্ভুক্ত। লগতে, সতৰ্কতা অনুপালন, অধিগ্ৰহণ আৰু একত্ৰীভৱনৰ ক্ষেত্ৰত এই নীতি সকলো কৰ্মচাৰী, ঠিকাদাৰ, ব্যৱসায়িক সহযোগী, যোগানকৰ্তা, সেৱা প্ৰদানকাৰী আৰু অন্যান্য প্ৰধান অংশীদাৰসকলৰ ক্ষেত্ৰত প্ৰযোজ্য।

এই নীতিয়ে আমাৰ প্ৰকল্পসমূহৰ সমগ্ৰ জীৱনচক্ৰকে সামৰি লয় – মূল্যায়নৰ জৰিয়তে কৰা পৰিকল্পনাৰ পৰা আৰম্ভ কৰি সঞ্চালন আৰু পৰিসমাপ্তিলৈকে। ই আপষ্ট্ৰীম, মিডষ্ট্ৰীম, ডাউনষ্ট্ৰীম, বিকল্প শক্তি আৰু অন্যান্য পৰ্টফলিঅ' আদিত হোৱা সকলো সঞ্চালন কাৰ্য্যকে সাঙুৰি লৈছে। পৰিৱেশ সম্বন্ধীয় পাৰামিটাৰসমূহৰ ভিতৰত গ্ৰীণহাউচ গেছ নিৰ্গমণ, শক্তিৰ ব্যৱহাৰ, পানীৰ ব্যৱহাৰ, সম্পদৰ কাৰ্য্যক্ষমতা, প্ৰদূষণ, আৱৰ্জনা আৰু জৈৱ বৈচিত্ৰ্য আদি অন্তৰ্ভুক্ত।

৩) পৰিৱেশ সম্বন্ধীয় নীতিৰ উদ্দেশ্যসমূহ

পৰিৱেশৰ প্ৰতি দায়বদ্ধ এক প্ৰতিষ্ঠানলৈ পৰিগণিত হোৱাৰ প্ৰতিশ্ৰুতিৰ দিশত এক মাৰ্গদৰ্শক হিচাপে অইল ইণ্ডিয়া লিমিটেডে এই নীতিৰ প্ৰতিষ্ঠা কৰে।

৪) এই নীতিৰ সংকল্পসমূহ

পৰিৱেশ ব্যৱস্থাপনা পদক্ষেপক শক্তিশালী কৰা

- **নিয়ামক অনুপালন :** সকলো প্ৰাসংগিক কেন্দ্ৰীয়, ৰাজ্যিক আৰু অন্যান্য পৰিৱেশ সম্বন্ধীয় আইন, নিয়ম আৰু বিধিগত প্ৰয়োজনীয়তা মানি চলা।
- **পৰিৱেশজনিত বিবেচনা :** পুঁজি আবন্টন আৰু সঞ্চালনৰ সৈতে জড়িত সিদ্ধান্ত গ্ৰহণ প্ৰক্ৰিয়াত পৰিৱেশ অনুকূল বিবেচনা আৰু কাৰ্য্য সম্পাদনৰ মেট্ৰিক তথা মিটাৰসমূহ অন্তৰ্ভুক্ত কৰা।
- **পৰিৱেশ ব্যৱস্থাপনা প্ৰণালী :** বিশ্বস্তৰীয় মানদণ্ডৰ সৈতে মিলিত হ'বলৈ ISO 14001 অথবা সমপৰ্যায়ৰ আৰ্হিৰ সৈতে সামঞ্জস্য ৰক্ষা কৰি পৰিৱেশ ব্যৱস্থাপনা প্ৰণালীৰ বিকাশ, ৰূপায়ণ আৰু নিৰন্তৰ উন্নতি সাধন কৰা।
- **বিপদ মূল্যায়ন আৰু প্ৰশমন :** নিয়মিত ৰূপত পৰিৱেশ সম্বন্ধীয় বিপদসমূহৰ মূল্যায়ন কৰা, সম্ভাব্য প্ৰভাৱসমূহ নিয়ন্ত্ৰণ কৰা, ফলপ্ৰসূ প্ৰশমন ব্যৱস্থা ৰূপায়ণ কৰা আৰু কৌশল অনুকূল কৰা, আৰু উপনিমিত্ত ব্যয়ৰ বাবে বীমা আদিৰ দৰে সক্ৰিয় সুৰক্ষা উপায় গ্ৰহণ কৰা।
- **সমীক্ষা আৰু নিৰন্তৰ নিৰীক্ষণ :** পৰিৱেশ সম্বন্ধীয় প্ৰভাৱৰ ফলপ্ৰসূ ব্যৱস্থাপনা নিশ্চিত কৰিবলৈ এই নীতি অনুসৰি পৰিৱেশজনিত কাৰ্য্য সম্পাদনৰ সময়ে সময়ে সমীক্ষা আৰু মূল্যায়ন কৰা।
- **নিৰন্তৰ উন্নতি আৰু অভিযোজন :** সৰ্বোত্তম উপলব্ধ পদ্ধতি আৰু প্ৰযুক্তি গ্ৰহণ কৰি আৰু অনুসন্ধান আৰু বিকাশত বিনিয়োগ কৰি পৰিৱেশ সম্বন্ধীয় কাৰ্য্যকলাপত নিৰন্তৰ উন্নতি সাধন কৰা।

পৰিৱেশ সম্বন্ধীয় কাৰ্য্য সম্পাদনত উন্নতি সাধন

- **বহনক্ষম সম্পদ ব্যৱস্থাপনা :** শক্তি, পানী, আৱৰ্জনা, জৈৱ-বৈচিত্ৰ আৰু অন্যান্য প্ৰাকৃতিক সম্পদ ব্যৱস্থাপনা পদ্ধতি শক্তিশালী কৰিবৰ বাবে চাৰ্কুলাৰ অৰ্থনৈতিক নীতি পৰিগ্ৰহণ কৰা।
- **জৈৱ-বৈচিত্ৰ্য :** জৈৱ-বৈচিত্ৰ্য আৰু প্ৰকৃতি আধাৰিত বিপদৰ পৰা হাত সাৰিবলৈ অথবা বিপদ হ্ৰাস কৰিবলৈ জৈৱ-বৈচিত্ৰ্যৰ সৈতে জড়িত বিপদ মূল্যায়ন কৰা, প্ৰশমন স্তৰ প্ৰয়োগ কৰা আৰু বননিকৰণক প্ৰচাৰ কৰা।
- **জলবায়ু ব্যৱস্থা :** গ্ৰীণ হাউচ গেছ নিৰ্গমণ হ্ৰাস, কম কাৰ্বন শক্তিলৈ ৰূপান্তৰ, বায়ুৰ মানদণ্ড উন্নত কৰিবলৈ আৰু স্ক'প ১ আৰু স্ক'প ২ৰ বাবে নেট-জিৰ' নিৰ্গমণৰ লক্ষ্যত উপণীত হ'বলৈ জলবায়ুৰ বিপদ প্ৰশমন ব্যৱস্থাৰ সমান্তৰালকৈ তৎকালীন আৰু দীৰ্ঘ-ম্যাদী কাৰ্য্যব্যৱস্থা গ্ৰহণ কৰা।

স্বচ্ছতা আৰু জবাবদিহিতা নিশ্চিত কৰা

- **লক্ষ্য নিৰূপণ :** প্ৰশমন স্তৰ (প্ৰতিৰোধ, হ্ৰাস, পুনৰ ব্যৱহাৰ, পুনৰ্ব্যৱহাৰ্য্য কৰাক প্ৰাথমিকতা প্ৰদান আৰু দায়িত্বশীল ব্যৱস্থাপনা) প্ৰয়োগ কৰি পৰিৱেশ সম্বন্ধীয় প্ৰভাৱ নূন্যতম, হ্ৰাস আৰু প্ৰশমিত কৰাৰ ক্ষেত্ৰত স্পষ্ট উদ্দেশ্য আৰু লক্ষ্য নিৰ্ধাৰণ কৰা আৰু ইয়াৰ স্বচ্ছ প্ৰতিবেদন নিশ্চিত কৰা।
- **বহনক্ষমতা-জড়িত কে পি আই :** কাৰ্য্যবাহীসকলকৰ মূল পৰিৱেশন সূচকসমূহ (Key Performance Indicators), পৰিৱেশ সম্বন্ধীয় লক্ষ্য প্ৰাপ্তিৰ সৈতে জড়িত হৈ থাকিব, যাৰ দ্বাৰা বহনক্ষমতাৰ পদক্ষেপসমূহ ৰূপায়ণত দায়বদ্ধতা নিশ্চিত হ'ব।

সক্ৰিয় পৰিস্থিতিতন্ত্ৰৰ স্থাপন

- **অংশীদাৰসকলক জড়িতকৰণ :** ব্যৱসায়িক সহযোগী আৰু যোগানকাৰীসকলৰ লগতে আভ্যন্তৰীণ আৰু বাহিৰৰ অংশীদাৰসকলৰ মাজত সম্ভাব্য পৰিৱেশ সম্বন্ধীয় প্ৰভাৱ আৰু ইয়াৰ দায়িত্বশীল ব্যৱস্থাপনাৰ বিষয়ে সজাগতা বৃদ্ধি কৰা। স্বচ্ছতা নিশ্চিত কৰিবলৈ পৰিৱেশৰ প্ৰতি আমি পালন কৰা দায়িত্বৰ ওপৰত আস্থা গঢ়ি তুলিবলৈ স্থানীয় জনসাধাৰণ, নিয়ামক কৰ্তৃপক্ষ আৰু অন্যান্য অংশীদাৰসকলৰ সৈতে সম্বন্ধ গঢ়ি তোলা।
- **সহযোগিতা আৰু অংশীদাৰিত্ব :** পৰিৱেশ সম্বন্ধীয় কাম-কাজ বৃদ্ধি কৰিবলৈ আৰু পৰিৱেশৰ স্থিতিস্থাপকতা গঢ়ি তুলিবলৈ ৰাষ্ট্ৰীয় আৰু আন্তঃৰাষ্ট্ৰীয় সংস্থাসমূহৰ সৈতে অংশীদাৰিত্ব গঢ়ি তোলা।
- **সংবেদনশীল আৰু প্ৰশিক্ষণ :** কৰ্মচাৰী, ঠিকাদাৰ আৰু যোগানকাৰীসকলক পৰিৱেশ সম্বন্ধীয় বিপদ হ্ৰাস কৰাৰ গুৰুত্বৰ বিষয়ে আৰু তেওঁলোকৰ কাৰ্য্যৰ পৰিৱেশগত পৰিণতিৰ বিষয়ে অনুধাৱন কৰিবলৈ সংবেদনশীল কৰি তোলা/ প্ৰশিক্ষণ দিয়া।
- **স্বচ্ছতা আৰু প্ৰতিবেদন :** বহনক্ষমতাৰ প্ৰতিবেদনকে ধৰি ৰাজহুৱা প্ৰকাশৰ জৰিয়তে পৰিৱেশ ব্যৱস্থাপনাৰ প্ৰচেষ্টা, অগ্ৰগতি আৰু কাৰ্য্য সম্পাদনৰ বিষয়ে সকলো অংশীদাৰৰ সৈতে নিয়মিতভাৱে আলোচনা কৰা। পৰিৱেশ সম্বন্ধীয় তথ্যৰ বাহ্যিক নিশ্চয়তা প্ৰাপ্ত কৰা আৰু স্বীকৃতিপ্ৰাপ্ত বিশ্বস্তৰীয় প্ৰতিবেদনৰ মানদণ্ডৰ সৈতে সামঞ্জস্যতা নিশ্চিত কৰা।

৫) দায়বদ্ধতা আৰু সমীক্ষা

এই নীতি কাৰ্য্যকৰী কৰাৰ প্ৰতি অইল ইণ্ডিয়া লিমিটেড দায়বদ্ধ আৰু প্ৰতিশ্ৰুতিবদ্ধ। সঞ্চালন ক্ষেত্ৰৰ সঞ্চালকসকলকে ধৰি বোৰ্ড পৰ্য্যায়ৰ উপ-সমিতিৰ দায়িত্ব হৈছে এই নীতিৰ তদাৰক আৰু বলবৎ কৰা। সংশ্লিষ্ট মানদণ্ডসমূহৰ সম্পূৰ্ণ কাৰ্যকৰীকৰণ আৰু অনুপালনৰ দায়িত্ব অৰ্পণ কৰা হৈছে এইছ এছ ই আৰু ই এছ জিৰ কাৰ্য্যবাহী সঞ্চালকক। উপ-সমিতিয়ে প্ৰতি বছৰে এই নীতিৰ সমীক্ষা কৰি কোনো সংশোধনৰ প্ৰয়োজন হ'লে প্ৰস্তাৱ আগবঢ়াব।

ৰঞ্জিত ৰথ

ড০ ৰঞ্জিত ৰথ
অধ্যক্ষ আৰু পৰিচালন সঞ্চালক

কাৰ্যকৰী হোৱাৰ তাৰিখ:- ১৮/১২/২০২৪

ANNEXURE-C

ऑयल इंडिया
OIL INDIA

HSE Department
Oil India Limited
Duliajan, Dibrugarh, 786602, Assam
Phone : 0374-2800542
Email: safety@oilindia.in

संदर्भ सं./Ref. No.: HSE/E/21(B)/928

दिनांक/Date: 01.09.2025

From	:	ED (HSE & ESG)
To	:	The Member Secretary, Pollution Control Board, Assam, Bamunimaidam, Guwahati- 781021.
Subject	:	Submission of Environmental Statement (Form-V) under Environment (Protection) Rules, 1986.

Sir,

With reference to the above subject, we are submitting herewith the Environmental Statement (Form-V) for the financial year ending on 31st March 2025 pertaining to the operations of Oil India Limited in the districts of Dibrugarh, Tinsukia, Sivsagar and Charaideo in Assam.

Thanking you.

Yours faithfully,
For **Oil India Limited**

01/9/2025

(R.K. Singh)
ED (HSE & ESG)-Officiating
Nodal Officer (EC, FC, NBWL)
For Resident Chief Executive

Encl: As above.

Copy: 1. Regional Executive Engineer,
Pollution Control Board Assam,
Back Side of ASTC Bus Station,
Chowkidinghee, Dibrugarh,
PIN: 786001.

2. Executive Engineer,
Regional Laboratory cum Office,
Pollution Control Board Assam,
Melachakar, Sivsagar,
PIN: 785640.

3. Executive Engineer,
Regional Office,
Pollution Control Board Assam,
Rangagora Rd, Borguri, Tinsukia,
PIN: 786126

FORM – V
(See Rule 14)
ENVIRONMENTAL STATEMENT FOR THE FINANCIAL YEAR ENDING THE 31st MARCH, 2025

PART – A

(i) **Name and address of the owner/occupier of the industry operation or process.**

OIL INDIA LIMITED
P.O. DULIAJAN
DIST. DIBRUGARH
ASSAM -786602.

Note: Environmental Statement (Form – V) is pertaining to the operations of Oil India Limited in the districts of Dibrugarh, Tinsukia, Sivasagar and Charaideo in Assam.

(ii) **Industry category:** Red - Oil and gas extraction (on-shore extraction through drilling wells)

(iii) **Production capacity – Units**

OIL's production target is fixed as per the Memorandum of Understanding (MoU) with Ministry of Petroleum and Natural Gas, Govt. of India, which varies from year to year.

Production details during F.Y. 2024-25:

- **Crude Oil:** 3.380 MMT.
- **Natural Gas:** 2935.529832 MMSCM
- **LPG:** 30,525 MT.

(iv) **Year of establishment:**

OIL INDIA LTD. was formed in 1961 as a joint venture with M/S. Burma Oil Company, UK and on 14th Oct. 1981, OIL became a fully owned Govt. of India Enterprise.

(v) **Date of last Environmental Statement submitted:** 24.09.2024.

PART – B
WATER AND RAW MATERIAL CONSUMPTION

(I) Water consumption m^3/d:

S.No	Purpose	Water Consumption (m^3/ day)
1.	Process & Cooling	14469.04
2.	Domestic	15956.16
TOTAL		**30425.20**

Name of Products	Process water consumption per unit of product output	
	During F.Y. 2023-24	During F.Y. 2024-25
(1)	(2)	(3)
Hydrocarbon (Crude Oil, Natural Gas, LPG)	0.96 m^3/MT (Approx.)	0.94 m^3/MT (Approx.)

(II) Raw material consumption

*Name of raw materials	Name of products	Consumption of raw material per unit	
		During F.Y. 2023-24	During F.Y. 2024-25
No raw materials are used as Oil India Limited is engaged in Exploratory and Development drilling activities & production of Crude Oil and Natural Gas. However, chemicals such as Bentonite are used for preparation of Water based drilling mud.			

PART – C
POLLUTION DISCHARGED TO ENVIRONMENT/UNIT OF OUTPUT

(Parameter as specified in the consent issued)

Pollutants	Quantity of Pollutants Discharged (mass/day)	Concentrations of pollutants in discharges (mass/volume)	Percentage of variation from prescribed standards with reasons
(a) Water	**NIL.** There is no discharge of pollutants from drilling locations and Production Installations. • Wastewater generated from drilling locations is treated in Effluent Treatment Plant (ETP) and reused	• Quality of ETP treated water from the drilling locations is analyzed frequently. (Test report is enclosed as ***Annexure – I***). • Quality of Formation	No variation is observed. All parameters of treated effluent and Formation water are within the permissible limits.

	back in the drilling operation. • The formation water generated after separation from crude oil and treatment is pumped back to the underground formation (depth greater than 1600 m) through formation water disposal wells.	water is analyzed frequently (Test report enclosed as ***Annexure- II***)	
(b) Air	No major air pollutants are emitted from Oil & Gas exploratory and development drilling and production activities except Stack Gas emissions at drilling locations and Production Installations & Flaring at Oil Collecting Stations.	Stack Gas and Ambient Air Quality (AAQ) monitoring is carried out frequently at drilling locations and Production Installations (Test reports enclosed as ***Annexure- III***)	No variation is observed. All parameters of Stack Gas emissions and Ambient Air are within the permissible limits.

PART – D
HAZARDOUS WASTES

(As specified under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016)

Hazardous Wastes	**Category of Hazardous Waste as per Schedule - I of HW Rules, 2016**	**Total Quantity generated**	
		During F.Y. 2023-24	**During F.Y. 2024-25**
a) From process	S.No. 2.2 Sludge containing Oil	3541.99 MT	3849.99MT
	S.No. 5.1 Used or Spent Oil	55 KL	50 KL
	S.No. 33.1 Empty barrels/ containers/liners contaminated with hazardous chemicals/ wastes	11150 Nos.	13000 Nos.

	S.No. 33.2 Contaminated cotton rags or other cleaning materials	5.58 MT	9.40 MT
b) From pollution control facilities	S.No. 33.5 Chemical sludge from waste water treatment	98.44 KL	197.46 KL

PART – E
SOLID WASTES

Solid Wastes	Total Quantity	
	During F.Y. 2023-24	**During F.Y. 2024-25**
(a) From process Drill Cuttings	15,200 m^3 (Approx.)	13200 m^3 (Approx.)
(b) From pollution control facilities	NIL	
(c) (1) Quantity recycled or re-utilized within the unit. (2) Sold (3) Disposed	N/A N/A N/A	

PART – F
PLEASE SPECIFY THE CHARACTERIZATION (IN TERMS OF COMPOSITION AND QUANTUM) OF HAZARDOUS AS WELL AS SOLID WASTES AND INDICATE DISPOSAL PRACTICE ADOPTED FOR BOTH THESE CATEGORIES OF WASTES.

(I) Hazardous Wastes:

Name of the Hazardous Waste	Quantity generated during F.Y. 2024-25	Disposal Practices
a) Sludge containing Oil	3849.99MT	Sent to Sludge Processing Plant for oil recovery followed by Bioremediation

b) Used or Spent Oil	50 KL	Stored in barrels under covered shed and sold to authorized recyclers through auction
c) Empty barrels/ containers/liners contaminated with hazardous chemicals/ wastes	13000 Nos.	Sold to authorized recyclers through auction
d) Contaminated cotton rags or other cleaning materials	9.40 MT	Bioremediation
e) Chemical sludge from waste water treatment	197.46 KL	Disposed in HDPE lined pits

(I) Solid Wastes:

Name of the Solid Waste	Quantity generated during F.Y. 2024-25	Disposal Practices
a) Drill Cuttings	13,200 m^3 (Approx.)	Disposed in HDPE lined pits

PART – G

IMPACT OF THE POLLUTION ABATEMENT MEASURES TAKEN ON CONSERVATION OF NATURAL RESOURCES AND ON THE COST OF PRODUCTION

- Acoustic enclosures have been provided around all gensets to reduce noise levels.
- Recovery of drilling mud from drill cuttings by using a combination of Vertical Cutting Dryer (VCD) and a high-performance centrifuge.
- Wastewater generated from drilling locations is collected in HDPE lined pits, treated in Effluent Treatment Plant (ETP) with Reverse Osmosis unit and the treated effluent is reused back in the drilling operation.
- Formation water generated from Production Installations is treated in Effluent Treatment Plant (ETP) before disposal in the abandoned/ water disposal wells.
- Processing of oily sludge for recovery of Crude oil and further treatment of sludge through Bioremediation.
- Construction of central concrete pit for disposal of waste mud.
- Treatment of Biomedical waste through incinerator.

PART – H

ADDITIONAL MEASURES / INVESTMENT PROPOSAL FOR ENVIRONMENTAL PROTECTION, ABATEMENT OF POLLUTION, PREVENTION OF POLLUTION

- Municipal Solid waste treatment plant has been setup for treatment of municipal and solid waste generated at Duliajan Township.
- RCC concrete pit has been constructed for the environmental sound disposal of leftover drilling fluid.
- MoU signed with the Digboi Forest Division, Assam, to carry out afforestation on 100 hectares of degraded forestland.
- Memorandum of Understanding (MoU) in progress with upcoming TSDF facility by Mumbai waste management limited for disposal of hazardous waste generated by our installations and drilling sites.

PART – I

ANY OTHER PARTICULARS FOR IMPROVING THE QUALITY OF THE ENVIRONMENT.

- Zero Routine Flare: Construction of pipelines and installation of Booster compressors led to 59% reduction in flare compared to previous year.
- Replacement of conventional energy intensive equipment (LED lights, BLDC fans etc.) with energy efficient equipment.
- Dynamic Gas Blending (DGB) retrofit kits have been installed on drilling rig engines, enabling them to operate on 100% diesel or a diesel- natural gas mix with up to 70% natural gas substitution. This system reduces environment impact by using flared gas as fuel, effectively substituting diesel and promoting cleaner energy use.

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