

**GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE
(IA DIVISION-INDUSTRY-2 SECTOR)**

Dated: 19.07.2021

**MINUTES OF THE 37th MEETING OF THE EXPERT APPRAISAL
COMMITTEE**

(INDUSTRY-2 SECTOR PROJECTS)

HELD ON 07th -08th July, 2021

**Venue: Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi-110003
through Video Conferencing (VC)**

(i) Opening Remarks by the Chairman: The Chairman made hearty welcome to the Committee members and appreciated the efforts of the Committee. After opening remarks, the Chairman opened the EAC meeting for further deliberations.

(ii) Confirmation of minutes: The EAC, having taken note that final minutes were issued after incorporating comments received from the EAC members on the minutes of its 36th Meeting of the EAC (Industry-2) held during 16th -17th June, 2021 conducted through Video Conferencing (VC), confirmed the same.

After welcoming the Committee Members, discussion on each of the agenda items was taken up ad-seriatim.

Details of the proposals considered during the meeting **conducted through Video Conferencing (VC)**, deliberations made and the recommendations of the Committee are explained in the respective agenda items as under: -

07th July, 2021 (Wednesday)

Agenda No. 37.1

Development of 8 wells by setting up of 7 proposed surface facilities by M/s Gujarat State Petroleum Corporation Limited, GSPC Bhavan, Gandhinagar, Gujarat located at Tehsil Matar and

Anand District Kheda and Anand, State Gujarat - Consideration of Environment Clearance reg.

[IA/GJ/IND2/197194/2017, J-11011/17/2017-IA-II(I)]

The project proponent and their consultant M/s SV Enviro Labs & Consultants, made a detailed presentation through Video Conferencing (VC) on the salient features of the project.

The proposal is for Environmental Clearance to the project for Development of 8 wells by setting up of 7 proposed surface facilities by M/s Gujarat State Petroleum Corporation Limited, GSPC Bhavan, Gandhinagar, Gujarat located at Tehsil Matar and Anand District Kheda and Anand, State Gujarat. **(New definition is development of 6 wells by setting up of 6 EPS in Anand and Kheda districts of Gujarat. Two (02) well locations have been dropped from the application and public hearings have been conducted accordingly).**

All offshore and onshore oil and gas exploration, development and production are listed at S.N. 1(b) of Schedule of Environment Impact Assessment(EIA) Notification under category 'A' and are appraised at Central Level by Expert Appraisal Committee (EAC).

The project proposal was considered by the Expert Appraisal Committee (Industry-2) in its 20th meeting held during 27-28th Feb 2017 and recommended Terms of References (ToRs) for the project. The ToR has been issued by Ministry vide letter No. IA-J-11011/17/2017-IA. II(I) dated 26th May, 2017. Public Hearing for the proposed project has been conducted by the State Pollution Control Board on 12.01.2021 at Kheda chaired by Resident Additional Collector and Addl. District Magistrate, Kheda & 20.01.2021 at Anand districts chaired by Resident Additional Collector and Addl. District Magistrate, Anand. There were no major issues raised. The villagers asked to compensate the farmers soon and also asked to support their livelihood and provide domestic gas connections to their villages. It was informed that no litigation is pending against the proposal.

The details of products and capacity are as under:

S.No	Product Details	Quantity	Mode of Transport
1	Natural gas	3000-5000 SCM/ day	Tankers/Pipeline
2	Crude Oil	30-40 SCM/ day	Tankers/Pipeline

Land area is 570 Sq. km (Tarapur Block). The estimated project cost is Rs. 3-4 Crores for facility (EPS) development at each well site. Total capital cost earmarked towards environmental pollution control measures is Rs 20.5 lakhs and the Recurring cost (operation and maintenance) will be about Rs 14 lakhs per annum. Total Employment will be 6-10 people at each EPS working in each shift (3 shifts in 2 hours). Industry proposes to

allocate Rs. 62.5 Lakhs (2.5 % of total cost) towards corporate Social Responsibility.

There are No national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from the project site. Mahisagar River is flowing adjacent to the block boundary in south direction.

Ambient air quality monitoring was carried out at 8 locations during 23rd March'19 to 22nd June'19 and the baseline data indicates the ranges of concentrations as: PM10 (38.2-79.2 µg/m³), PM2.5 (16.5-42.7 µg/m³), SO₂ (7.1-13.2 µg/m³) and NO₂ (7.7-15.5 µg/m³). AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 0.16 µg/m³, 0.079 µg/m³ and 0.083 µg/m³ with respect to PM10, Sox and NO_x. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

Total water requirement of 6 KLD per EPS will be met from authorized tankers or nearby GSPC. Existing EPS consisting of bore well with approved CGWA clearance. Once the well is confirmed to be productive, CGWA clearance will be obtained for bore well. Domestic Wastewater of about 1.0 KLD/EPS generated at each site shall be disposed to well-designed soak pit constructed at site. Initially no produced water is expected from the wells however the water produced may increase, upto 10 SCM/day/well in the later stages of the field production life which will be disposed as per standard oil industry practices and applicable oil filed wastewater discharge rules.

Power requirement will be 25 KVA and will be met from Gujarat Electricity Board (GEB). Permission from GEB will be obtained once the well is confirmed to be productive. DG sets of capacity 62.5 kVA will be installed as backup power and stack height of 5 m will be provided as per CPCB norms to the proposed DG sets.

Details of process emissions generation and its management:

Vehicle movement for transportation of material and manpower	Maintenance of vehicles
Operation of DG sets and machinery	Installing acoustic enclosures and muffler on engine exhaust of DG sets
Flaring during production testing and process upset	<ul style="list-style-type: none"> • Setting of flare stack considering nearest habitation and sensitive receptor. • Elevated flaring to be undertaken as per guidelines issued by CPCB for Oil & Gas Extraction Industry.

	<ul style="list-style-type: none"> • Duration of flaring to be minimized by careful planning; • Gas to be internally used or shall be supplied to nearby industries
--	---

Details of Solid waste/Hazardous waste generation and its management:

S.No.	Description	Quantity	Disposal
1.	Waste/Used oil	10.0-15.0 litres/year	Internally used for lubrication
2.	Oily Cotton waste	30 kg/month	Disposed to authorized/approved vendor
3.	Waste Sludge Oil	1 SCM/month	Disposed to authorized/approved vendor

After detailed deliberations, EAC suggested to install mobile ETP and STP for industrial and domestic effluent treatment, explore for domestic gas connections to villagers, and no discharge shall be done of treated or untreated water. The discharge of effluent should be connected with the CPCB/SPCB server 24x7, so that the discharge quality and quantity can be monitored. Undertaking for not disposing/discharging effluent water produced from the wells into any river/nallah/water body during operation has been submitted by the PP. CPCB guidelines on Flaring shall be implemented as per GSR 176(E) 2nd April, 1996 - 72 Oil Drilling and Gas Extraction Industry.

The EAC, constituted under the provision of the EIA Notification, 2006 and comprising of Experts Members/domain experts in various fields, have examined the proposal submitted by the Project Proponent in desired form along with EIA/EMP report prepared and submitted by the Consultant accredited by the QCI/ NABET on behalf of the Project Proponent. The EAC noted that the Project Proponent has given undertaking that the data and information given in the application and enclosures are true to the best of his knowledge and belief and no information has been suppressed in the EIA/EMP report. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.

The Committee noted that the EIA/EMP report is in compliance of the ToR issued for the project, reflecting the present environmental concerns and the projected scenario for all the environmental components. The Committee has found the baseline data is within NAAQ standards. The Committee has deliberated the action plan proposed by the project proponent to arrest the incremental GLC due to the project. The Committee has also deliberated on the CER plan and found to be addressing the issues in the study area.

The EAC has deliberated the proposal and has made due diligence in the process as notified under the provisions of the EIA Notification, 2006, as amended from time to time and accordingly made the recommendations to the proposal. The Experts Members of the EAC have found the proposal in order and have **recommended** for grant of Environmental Clearance.

The environmental clearance granted to the project/activity is strictly under the provisions of the EIA Notification 2006 and its amendments. It does not tantamount/construe to approvals/consent/ permissions etc. required to be obtained or standards/conditions to be followed under any other Acts/ Rules/ Subordinate legislations, etc., as may be applicable to the project. The project proponent shall obtain necessary permission as mandated under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, as applicable from time to time, from the State Pollution Control Board, prior to construction & operation of the project.

The EAC, after detailed deliberations, **recommended** the project for grant of environmental clearance and subject to compliance of terms and conditions as under, and general terms of conditions at Annexure: -

- (i). The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented.
- (ii). No pipelines or its part shall be laid in the Forest land/Protected Area without prior permission/approval from the Competent Authority.
- (iii). The project proponent will treat and reuse the treated water within the drilling site location including at processing location and no waste or treated water shall be discharged outside the premises under any condition. Mobile ETP coupled with RO and mobile STP shall be installed to treat the waste water and sewage waste respectively.
- (iv). During production, storage and handling, the fugitive emission of methane, if any, shall be monitored using appropriate technology.
- (v). The project proponent also to ensure trapping/storing of the CO₂ generated, if any, during the process and handling.
- (vi). Approach road shall be made pucca to minimize generation of suspended dust.
- (vii). The project proponent shall make all arrangements for control of noise from the drilling activity. Acoustic enclosure shall be provided for the DG sets along with the adequate stack height as per CPCB guidelines.
- (viii). Total fresh water requirement shall not exceed 6 KLD per EPS and domestic wastewater of about 1.0 KLD/EPS at each site. Prior

permission shall be obtained from the concerned regulatory authority. Mobile ETP coupled with RO shall be installed to reuse the treated water in drilling system. Size of the waste pit shall be equal to the hole volume + volume of drill cutting and volume of discarded mud if any. Two feet free board may be left to accommodate rain water. There shall be separate storm water channel and rain water shall not be allowed to mix with waste water. Alternatively, if possible, pit less drilling be practiced instead of above.

- (ix). The company shall construct the garland drain to prevent runoff of any oil containing waste into the nearby water bodies. Separate drainage system shall be created for oil contaminated and non-oil contaminated.
- (x). Drill cuttings separated from drilling fluid shall be adequately washed and disposed in HDPE lined pit. Waste mud shall be tested for hazardous contaminants and disposed according to HWMH Rules, 2016. No effluent/drilling mud shall be discharged/disposed off into nearby surface water bodies. The company shall comply with the guidelines for disposal of solid waste, drill cutting and drilling fluids for onshore drilling operation notified vide GSR.546(E) dated 30th August, 2005.
- (xi). 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.
- (xii). The project proponent shall take necessary measures to prevent fire hazards, containing oil spill and soil remediation as needed. At fixed installations or plants use of ground flare shall be explored. At the place of ground flaring, the overhead flaring stack with knockout drums shall be installed to minimize gaseous emissions during operation.
- (xiii). The project proponent shall develop a contingency plan for H₂S release including all necessary aspects from evacuation to resumption of normal operations. The workers shall be provided with personal H₂S detectors in locations of high risk of exposure along with self-containing breathing apparatus.
- (xiv). Blow Out Preventer system shall be installed to prevent well blowouts during drilling operations.
- (xv). On completion of the project, necessary measures shall be taken for safe plugging of wells with secured enclosures to restore the drilling site to the original condition. The same shall be confirmed by the concerned regulatory authority from environment safety angle. In case of hydrocarbon not found economically viable, a full abandonment plan shall be implemented for the drilling site in accordance with the applicable DGH / Indian Petroleum Regulations.

- (xvi). As per the Ministry's OM dated 30.09.2020 superseding the OM dated 01.05.2018 regarding the Corporate Environmental Responsibility, and as per the action plan proposed by the project proponent to address the socio-economic and environmental issues in the study area, the project proponent, as committed, shall provide education funds in technical training centers/ support in nearby village's schools, support in health care facilities, drinking water supply and funds for miscellaneous activities like solar street lights, battery, solar panel etc., in the nearby villages. The action plan shall to be completed within time as proposed.
- (xvii). No lead acid batteries shall be utilized in the project/site.
- (xviii). Occupational health surveillance of the workers shall be carried out as per the prevailing Acts and Rules. All workers & employees shall be provided with required safety kits/mask for personal protection.
- (xix). Oil content in the drill cuttings shall be monitored if oil-based mud is used and report shall be sent to the Ministry's Regional Office.
- (xx). The project proponent shall prepare operating manual in respect of all activities, which would cover all safety & environment related issues and measures to be taken for protection. One set of environmental manual shall be made available at the drilling site/ 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. Remote monitoring of site should be done.

Agenda No. 37.2

Integrated Para-Xylene & Purified Terephthalic Acid (PX-PTA) Project within the existing refinery complex by M/s. Indian Oil Corporation Limited, Paradip Refinery located at S.F. No. 218, Abhaychandrapur village, Jagatsinghpur District, Odisha State - Consideration of Environment & CRZ Clearance reg.

[IA/OR/IND2/209438/2018, J-11011/395/2012-IA II(I)]

The project proponent and their consultant M/s Hubert Enviro Care System (P) Ltd, Chennai, made a detailed presentation through Video Conferencing (VC) on the salient features of the project.

The proposal is for Environmental & CRZ Clearance to the project for Integrated Para-Xylene & Purified Terephthalic Acid (PX-PTA) Project within the existing refinery complex by M/s. Indian Oil Corporation Limited, Paradip Refinery located at S.F. No. 218, Abhaychandrapur village, Jagatsinghpur District, Odisha State.

All main products: Naphtha Exports, BS-IV MS, BS-VI MS, Reformate, SKO, ATF Domestic, BS-IV HSD, BS-VI HSD, Sulphur, Pet Coke, LPG, Poly-

Propylene, Fuel & Loss, Mono-Ethylene Glycol (MEG), , Purified Terephthalic acid and byproducts: Toluene, Di-ethylene Glycol & Tri-ethylene Glycol listed at S.No. 5 (c) - "Petro-chemical complexes (industries based on processing of petroleum fractions & natural gas and/or reforming to aromatics" of Schedule of Environmental Impact Assessment (EIA) Notification under Category 'A', and are appraised by Central Level by Expert Appraisal Committee (EAC).

Standard Terms of references has been issued by MoEFCC for the proposed project vide F.No. J-11011/395/2012-IA II(I) on 30.09.2018. Public Hearing for the proposed project has been conducted by Odisha State Pollution Control Board on 02.03.2021 chaired by Additional District Magistrate. The main issues raised during the public hearing are related to basic facilities for local public, greenbelt development and CSR activities to be carried out in nearby villages. It was informed that no litigation is pending against the proposal.

Ministry had issued EC earlier vide letter no. J-11011/344/2016-IA. II(I) dated 11.10.2018 to the existing project for ERU MEG and BSVI facilities in favour of M/s. Indian Oil Corporation Limited, Paradip Refinery.

The details of products and capacity are as under:

Existing & Proposed Products

S.No.	Streams	Quantity – TMT/Year		EC Details
		Existing	Proposed	
Refinery Products				
1	Naphtha Exports	0	--	J-11011/344/2016-IA-II(I) dated 11 th Oct 2018 Under Construction
2	BS-IV MS	0	--	
3	BS-VI MS	3260	--	
4	Reformate	96	--	
5	SKO	312	--	
6	ATF Domestic	463	--	
7	BS-IV HSD	0	--	
8	BS-VI HSD	6017	--	
9	Sulphur	350	--	
10	PetCoke	1253	--	
11	LPG	932	--	
12	Poly-Propylene	678	--	
13	Fuel & Loss	1641	--	

Petro-chemical Products				
14	Mono-Ethylene Glycol (MEG)	332 KTA	--	J-11011/344/2016-IA-II(I) dated 11 th Oct 2018 Under Construction
15	Para Xylene	0	800600TPA	Feed to PTA as a Raw material
16	Purified Terephthalic Acid (PTA)	0	1200000TPA	Proposed Product
Associated Products				
17	Di-ethylene Glycol	24 KTA	--	J-11011/344/2016-IA-II(I) dated 11 th Oct 2018
18	Tri-ethylene Glycol	1 KTA	--	Under Construction
19	Toluene	0	50000TPA	Proposed Product

Existing & Proposed Capacities

S. No	Plant / Equipment / Facility	Units	Existing Configuration	Proposed Configuration	Final configuration after expansion	Remark
1	Crude/ Vacuum Distillation Unit	MMT PA	15	-	15	
2	Delayed Coking Unit	MMT PA	4.1	-	4.1	
3	Diesel Hydrotrating Unit	MMT PA	5.2	-	5.2	
4	VGO Hydrotreatment Unit	MMT PA	5.4	-	5.4	
5	Fluidised Catalytic Cracking Unit	MMT PA	4.2	-	4.2	
6	Sulphur Recovery Unit	MMT PA	2 x 0.191625, 1 TGTU	-	2 x 0.191625, 1 TGTU	
6a	Standby SRU	MMT PA	0.191625	-	0.191625	Upcoming

S. No	Plant / Equipment / Facility	Units	Existing Configuration	Proposed Configuration	Final configuration after expansion	Remark
7	Hydrogen Plant	MMT PA	0.07258	-	0.07258	
8	Alkylation Unit	MMT PA	0.65	-	0.65	
9	Polypropylene Unit	MMT PA	2 x 0.340	-	2 x 0.340	
10	Captive Power Plant & Cooling Tower	-	GT with HRSG	UB-5 – 300TPH	GT with HRSG	1 UB will be under PX-PTA project
			3 x 102 MW		3 x 102 MW	
			STG 2 x 30 MW		STG 2 x 30 MW	
			UB 4 x 300 TPH		UB 5 x 300 TPH	
			Standby GT with HRSG 1 x 30 MW (366MW, 1200 TPH)		Standby GT with HRSG 1 x 30 MW (366MW, 1200 TPH)	
11	LPG Treater	MMT PA	0.21	-	0.21	
12	LPG Treater (Cracked LPG)	MMT PA	1.85	-	1.85	
13	LPG Treater (Coker LPG)	MMT PA	0.165	-	0.165	
14	ATF (Mercox)	MMT PA	1.2	-	1.2	
15	SWS 1 + SWS II	KLP H	227 + 398 = 625	-	227 + 398 = 625	
16	ARU	KLP H	1353	-	1353	
17	Continues Catalytic Reformer	MMT PA	3.941	-	3.941	
18	Pet Coke Evacuation Through Rapid	MMT PA	1.3	-	1.3	

S. N o	Plant / Equipment / Facility	Units	Existing Configuration	Proposed Configuration	Final configuration after expansion	Remark
	Railway Loading System (RRLS)					
19	MEG	MMT PA	0.332	-	0.332	Ongoing
20	ERU	MMT PA	0.18	-	0.18	Ongoing
21	DEG	MMT PA	0.024	-	0.024	Ongoing
22	TEG	MMT PA	0.001	-	0.001	Ongoing
23	ISOM	MMT PA	1.1	-	1.1	Deferred
24	HGU – New	MMT PA	2 x 0.060	-	2 x 0.060	Ongoing
25	Kero De Sulfurization Unit	MMT PA	0.3	-	0.3	Ongoing
26	Air Separation Unit (ASU) under MEG	MMT PA	0.21	-	0.21	Ongoing
27	IGHDS (Indmax Gasoline Desulphurization)	MMT PA	1.15	-	1.15	Deferred
28	Para Xylene Complex (Includes Sulfolane Extraction Unit, BT (Benzene Toluene Fractionation Unit, Tatoray unit, Xylene Fractination	MMT PA	-	0.8	0.8	

S. No	Plant / Equipment / Facility	Units	Existing Configuration	Proposed Configuration	Final configuration after expansion	Remark
	Unit (XFU) Parex unit and Isomar Unit					
29	PTA (Purified Terephthalic Acid)	MMT PA	-	1.2	1.2	

Existing Utilities Capacity

S. No	Description	Working	Standby	Total	Capacity
1	Gas Turbine Generators (GTG)	2	1	3	102 MW Each
2	Heat Recovery Steam Generators (HRSGs)	2	1	3	220 TPH HHP Steam
3	Steam Turbines Generators (STGs)	2	-	2	30 MW Each
4	Utility Boilers (UBs)	3	1	4	300 TPH HHP
5	Cooling Tower	CT 1 CT 2 CT 3 CT 4 CT-5	-	4	16000 KLPH 16000 KLPH (PP) 28000 KLPH 44000 KLPH 25200 KLPH
6	DM Water Plant	1 UF	-	1	UF = 1170 TPH
		5 DM Trains		5	385 TPH each
7	Air Compressor	LP -5 HP - 2		7	13000 Nm ³ /hr each 250 Nm ³ /hr Each
8	Nitrogen Generation Plant	1	-	1	14600/16000 Nm ³ /hr
9	Raw Water Reservoirs	2	-	2	265000 KL Each
10	Storm Water Reservoirs	2	-	2	312000 KL 296000 KL
11	ETP	1	-	1	1580 m ³ /hr

Proposed Utilities Capacity

S. No	Description	Size/Capacity	Units
1	Utility Boiler-5*	300	TPH
2	Substation and SRR Building for UB-5	61.6 x 17	m
3	Cooling water Makeup	910	TPH
4	Cooling Tower Area for PX-PTA	75 x 200	m
5	Sub-Station for Cooling Tower	36 x 24	m
6	Demineralized Water peak	264.9	TPH
7	Steam (HHP) peak	194	TPH
8.	Instrumentation Air	3618	Nm ³ /hr
9	Nitrogen	18594	Nm ³ /hr
10	Power	30.5	MWH
11	Natural Gas/Fuel Gas in PX unit	18	TPH
12	Natural Gas/Fuel Gas in New Boiler	20	TPH
13	NG RECEIPT TERMINAL and distribution network	240	TPH
14	PP and PTA container storage yard and Rail Loading facility	32 x 843	m
15	Maintenance and Staff Building	19 x 7	m
16	Local GIS Room	32 x 12	m
17	Product Loading Gantry for Toluene - Area	148 x 38	m
18	Product Loading Gantry for Toluene- 2 Loading Arm	45	m ³ /hr
19	PX-PTA Hub Distribution Substation North	35 24	m

**In Form-1 Utility Boiler-5 is not mentioned based on the preliminary project feasibility study. However, the Utility Boiler-5 is included and GT-HRSG excluded during detailed feasibility study.*

Proposed ETP Capacity

S.NO.	DESCRIPTION	SIZE / CAPACITY
1	ETP with Anaerobic and Aerobic Treatment with integrated RO	408 m ³ /hr
2	ETP Substation, SRR & Control Room will be one building with G+2 structure	50 m x 35 m

Proposed Facilities under PX Unit

S.NO.	DESCRIPTION	SIZE / CAPACITY
1	Paraxylene (PX)	0.8 MMTPA*

S.NO.	DESCRIPTION	SIZE / CAPACITY
2	PX Sub-station	41 m x 135 m
3	PX – PTA Centralized Control Room	46 m x 52.5 m
4	PX Satellite Rack Room.	46 m x 51 m
5	Pre ETP Unit	Peak: 3 m ³ /hr
6	Capacity enhancement of existing CCRU Hydrogen PSA	Revamp of existing CCRU PSA System from 12 Beds in MS mode to 16 beds in Aromatics Mode
7	Flare	Capacity : 1674 TPH
8	PX ISBL TANKFARM	PX Area (over and above the ISBL tanks) (nominal capacities) -Aromatic Tank-7390 m ³ m -Ligh reformat storage tank-7390m ³ -Plant inventory tank-260m ³ -Paraxylene day tank-2 x 3900m ³ -Desorbent storage tank- 2810m ³ -Plant Inventory storage tank-2810m ³ -Toluene day tank- 2 x 320m ³
9	(PX OSBL TANKFARM)	PX OSBL Area (nominal capacities) -Reformat Storage tank-15000m ³ - Paraxylene tank-2 x 9730m ³ -Toluene storage tank-2 x 1049m ³ - Raffinate storage tank – 6430m ³
10	PX-PTA Lab Building	52 m x 31 m
11	Operator Shelter for PX Unit	10 m x 21 m
12	Fire Water Booster Pump House for PX Unit	21 m x 9 m
Note:* In Form-1 it has been mentioned as 0.78MMTPA based on the preliminary project feasibility study. Based on the Detailed feasibility Study report the capacity has been given as 0.8MMTPA.		

Proposed Facilities under PTA Unit

S.NO.	DESCRIPTION	SIZE / CAPACITY
1	Purified Terephthalic Acid (PTA)	1.2 MMTPA

S.NO.	DESCRIPTION	SIZE / CAPACITY
2	N2 Unit including Storage and Vaporizer	HP Nitrogen - Normal- 55 Nm ³ /h Peak - 10115 Nm ³ /h LP Nitrogen - Normal - 145 Nm ³ /h Peak - 18209 Nm ³ /h Liquid Nitrogen working storage: 126 Ton
3	PTA Day Silos and Off-spec Silos	2 Day Silo – 2100 m ³ each 1 Off-spec Silo – 2100 m ³
4	PTA Product Silos	4 x 3238 m ³ each working volume
5	PTA Automatic Storage & Retrieval System (ASRS) Warehouse and along with PTA loading facility to Trucks and associated office and other buildings	ASRS for 1,00,000 nos. of FIBC Bags Overall block area – 310 m x 230 m
6	Product Bagging System	Total Bagging Rate – 300 TPH Total 8 no of Machines 6 No's Working (Bagging Rate – 50 TPH) 2 No's Standby (Bagging Rate – 50 TPH)
7	Fire water booster pumps	4 x 350 m ³ /hr each
8	Mother Liquor and Acetic acid Day tanks	ML – 1 x 1558 m ³ (nominal) AA – 2 x 425 m ³ (nominal)
9	PTA Sub-station	122 m x 38 m
10	PTA Satellite Rack room	46 m x 51 m
11	DG and DG room	6 MW DEG, 20 m x 36 m
12	Operator Shelter	20 m x 10 m

Existing land area is 13536735 m² (3345 Acres). No additional land will be used for proposed expansion. Industry has already developed greenbelt in an area of 30.46 % i.e. 3440000 m² (850 Acres) out of total area of the project. The estimated project cost is Rs.11783 Crores. Total capital cost earmarked towards environmental pollution control measures is Rs. 364.8 Crores and the Recurring cost (operation and maintenance) will be about Rs. 7.04 Crore per annum. Total Employment will be 200 persons as direct and 200 persons as indirect after expansion. Industry proposes to allocate Rs.6.64 Crores @ of 2.5% towards Enterprise Social Commitment.

There are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, and Wildlife Corridors etc. within 10 km radius from the project site. Water bodies: Bay of Bengal ~0.55km(SE), Dhenkiagalia Nadi (adjacent to project site) ~0.03km(W), Santara Nadi (adjacent to project site) ~0.08km(E), Atharabanki Nadi ~1.03(E),

Mahanga Nadi ~1.21(W), Jatadharmuhan Nadi ~2km(SSW), Taladanda canal ~4.87km(ENE), Mahanadi River ~6.18km(NNE), Garhigirhi Nadi ~6.89km(NNW), NunaNadi ~7.02km(N), Paunshiapat Nadi ~7.15km(NNW), Gupti Nadi ~7.46km(NNE), BoitaraNadi ~8.26km(ENE) Paika River ~8.62km(NW), Kula Nadi ~9.04km(NNW), Akharhaahall Nadi ~9.27km(NNE), Arhol Nadi ~9.28km(NNE), Kharinasi Nadi ~9.34km (NE), Pota Nadi ~9.65km(WSW), Kaduamadoli Nadi ~9.83km(ENE) and Khola Nadi ~9.86km(NE).

Ambient air quality monitoring was carried out at 8 locations during March 2019 to May 2019 and average baseline data indicates the ranges of concentrations as: PM₁₀ (46.16 – 95.70 µg/m³), PM_{2.5} (23.11 – 45.35 µg/m³), SO₂ (7.19 – 15.70 µg/m³) and NO₂ (13.46 – 30.06 µg/m³). AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 0.10µg/m³, 1.16µg/m³ and 5.89 µg/m³ with respect to PM, SO_x, and NO_x. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

Total water requirement is 1,15,116 m³/day of which fresh water requirement of 89,832 m³/day will be met from River Mahanadi and Recycle water of 25,284 m³/day will be sourced from RO Plant on the further treatment of ETP treated effluent.

Water requirement and breakup for proposed expansion:

S. No.	Description	Existing (m ³ /hr)						Proposed (m ³ /hr)						Total after expansion (m ³ /hr)							
		Total Water	Fresh Water	ETP Treated	Condensate Used	Use of outlet	Outlet	Total Water	Fresh Water	ETP Treated	Condensate Used	Use of outlet	Outlet	Total Water	Fresh Water	ETP Treated	Condensate Used	Use of outlet	Outlet	Effluent / Sewage	Loss
1	Coling tower	1482	1482	0	0	0	0	9305	9115	19	0	0	0	2136	711	239	0	0	0	5366	1875.9
2	DM Water Make up	1334.8	586.8	748	0	0	0	286	286	0	0	0	21.2	1620	587	1034	0	0	0	196.2	0
3	Service Water	465.2	465.2	0	0	0	372.16	60	60	0	0	0	48	525.2	525	0	0	0	420	0	105.1

No.	Description	Existing (m ³ /hr)							Proposed (m ³ /hr)							Total after expansion (m ³ /hr)										
		Total Water	Fresh Water	ETP Treated	Condensate Used	Use of outlet	Outlet	Effluent/ Sewage	Loss	Total Water	Fresh Water	ETP Treated	Condensate Used	Use of outlet	Outlet	Effluent/ Sewage	Loss	Total Water	Fresh Water	ETP Treated	Condensate Used	Use of outlet	Outlet	Effluent / Sewage	Loss	
		(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	
4	Refinery unit	0	0	0	0	372.16	0	372.16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5	PX-PTA unit	0	0	0	0	0	0	0	0	0	0	0	48	0	145.5*	0	0	0	0	0	0	0	420	0	517.66	0
6	Project	100	100	0	0	0	0	80	20	0	0	0	0	0	0	0	0	100	100	0	0	0	0	80	20	
7	Others	5	5	0	0	0	0	4	1	20	20	0	0	0	16	4	25	25	0	0	0	0	0	20	5	
8	Domestic	110	110	0	0	0	0	88	22	3	3	0	0	0	2.4	0.6	113	113	0	0	0	0	0	90.4	22.6	
9	Boiler	0	0	0	119.8	0	0	40	0	0	0	0	264.8	0	9.3	0	0	0	0	0	136.28	0	0	49.3	0	
	Total	3497	2744	748	1119.8	3772.16	3772.16	1082.1	1225.1	1225.1	3099.4	264.8	488	488	408	733.5	473.5	3364.3	3364.3	1053.5	1336.28	4220	4220	1490.2	208.6	

Effluent of 1490.1 m³/hr quantities will be treated through existing ETP of capacity 1580 m³/hr & proposed ETP of capacity 408 m³/hr. The treated effluent will be discharged to deep sea.

Wastewater treatment and Disposal Management as follows:

Unit	Existing (m ³ /hr)	Proposed (m ³ /hr)	After expansion (m ³ /hr)	Disposal Method	Facility Details
Effluent	1082.1	408	1490.1	Existing: Deep Sea Disposal (Bay of Bengal)	Existing: ETP capacity of 1580m ³ /hr Proposed: ETP

Unit	Existing (m ³ /hr)	Proposed (m ³ /hr)	After expansion (m ³ /hr)	Disposal Method	Facility Details
				Proposed: Deep Sea Disposal (Bay of Bengal)	capacity of 408m ³ /hr

Power requirement after expansion will be 271000 KVA including existing 240500 KVA and will be met from Existing Gas Turbine. Existing unit has 1 No of DG sets of 5000 KVA capacity is used as standby during power failure. Stacks (height 30 m ARL) has been provided as per CPCB norms. After expansion, existing DG sets will be used. Existing unit has 3 nos. of boiler of 300 TPH capacity of each, additionally 1 no. of Boiler of 300 TPH capacity is being used as standby and all are FO + Gas fired Boiler. Additionally, one 300 TPH, Gas (NG) fired boiler will be installed.

Details of process emissions generation and its management:

Existing Process Emission

S.No	Stack details	Fuel Type used	Stack Details					Emission per stack (g/s)			
			Height (m)	Temp (°C)	Dia. (m)	Exit Velocity (m/s)	Flue gas Flow Rate (Nm ³ /hr)	PM	SO ₂	NO _x	CO
1.	DHDT	Gas Fired	60	167	4.2	1.22	31128	0.03	0.13	1.04	0.05
2.	Utility Boiler - 3	Gas + Oil Fired	73.5	180	3	14.5	285793	0.32	0.66	7.00	0.83
3.	Utility Boiler - 4	Gas + Oil Fired	73.5	180	3	14.5	285793	0.33	1.53	7.21	0.81
4.	Gas Turbine - 1- HRSG-1	Naphtha	70.5	170	6	13.5	1062841	0.76	12.64	47.59	2.95
5.	HDT Reactor Feed Heater	Gas + Oil Fired	60	195	0.997	3.2	15834	0.02	0.10	0.12	0.03
6.	Vacuum Charge Heater of AVU	Gas + Oil Fired	55	150	3.8	7	112108	0.07	5.57	4.21	0.82
7.	FCC Regenerator	NA	65	226	3.5	15	320000	2.69	75.56	0.78	7.52
8.	Reformer of HGU	Naphtha	46.7	150	4	7.12	175222	0.004	2.02	4.60	1.60
9.	Fresh Feed Preheater of FCC	Gas + Oil Fired	62	189	2.6	10	61013	0.05	4.63	0.49	0.67
10.	CCR	Gas Fired	103	160	4.39	7	523959	0.06	1.43	3.50	5.20
11.	MHC 1st Train	Gas Fired	60	194	1.456	5.1	64717	0.07	0.36	0.37	0.32

S.No	Stack details	Fuel Type used	Stack Details					Emission per stack (g/s)				
			Height (m)	Temp (°C)	Dia. (m)	Exit Velocity (m/s)	Flue gas Flow Rate (Nm ³ /hr)	PM	SO ₂	NOx	CO	
	Reactor Feed Heater of VGO-HDT											
12.	Atmospheric Distillation Heater of VGO-HDT	Gas Fired	60	147	2.35	6.5	15834	0.01	0.01	0.15	0.03	
13.	Gas Turbine - 2-HRSG-2	Naptha	70.5	170	6	13.5	1062841	0.84	9.03	42.68	5.47	
14.	Gas Turbine - 3- HRSG-3	Naptha	70.5	170	6	13.5	1062841	0.87	4.28	55.38	3.65	
15.	Coker Heater - Stack-1	Gas + Oil Fired	60	190	2.9	6.2	78412	0.04	0.34	0.87	0.10	
16.	AVU-CDU	Gas Fired	64	150	4.79	7	201847	0.10	7.06	3.81	1.34	
17.	Coker Heater - Stack-2	Gas + Oil Fired	60	190	2.9	6.2	78412	0.16	3.52	1.54	0.40	
18.	SRU	Acid gas	71	316	4.5	5	106499	0.02	12.64	1.07	2.38	
19.	Charge Heater of NHDT	Gas Fired	70	170	2.8	7	48778	0.02	0.09	0.62	0.15	
20.	Utility Boiler - 1	Gas + Oil Fired	73.5	180	3	14.5	285793	0.42	11.09	10.51	1.82	
21.	Utility Boiler - 2	Gas + Oil Fired	73.5	180	3	14.5	285793	0.29	17.78	5.29	2.20	
Total (g/s)								7.18	170.48	198.80	38.35	

Note: Fuel Gas (FG) is the major fuel consumption in heaters. Only shortfall is made up with fuel Oil (FO) in dual fired heaters. In Gas Turbine, Naptha is fired and exhaust gas is utilized for steam generation in HRSG

Proposed Process Emission

S.No	Stack details	Stack Coordinates		Fuel Rate (Natural Gas) (kg/hr)	Flue gas Flow Rate (Nm ³ /hr)	Stack Details				Emission per stack (g/s)				
		N	E			Height (m)	Max. Temp (°C)	Dia. (m)	Exit Velocity (m/s)	PM	SO ₂	NOx	CO	CO ₂
1.	Tatory Furnace	20°15' 50.65"	86°35' 49.49"	433	4679	43.5	180	0.97	1.8	-	0.0257	0.1688	-	451.53
2.	ISOMAR Furnace	20°15' 47.79"	86°35' 49.57"	2747	29708	60.2	180	2.25	2.1	-	0.0833	0.6052	-	1402.36
3.	XFU 1	20°15' 45.09"	86°35' 49.64"	7594	82116	81.1	180	3.708	2.1	-	0.5597	2.7983	-	9553.61

S. No	Stack details	Stack Coordinates		Fuel Rate (Natural Gas) (kg/hr)	Flue gas Flow Rate (Nm ³ /hr)	Stack Details				Emission per stack (g/s)				
		N	E			Height (m)	Max. Temp (°C)	Dia. (m)	Exit Velocity (m/s)	PM	SO ₂	NO _x	CO	CO ₂
4.	XFU 2	20°15' 42.46"	86°35' 49.51"	4840	52339	61.73	180	4.192	1.1	-	0.4396	2.1955	-	7495.03
5.	Utility Boiler - 5 (Standby)*	20°15' 17.16"	86°35' 32.62"	19973	325061	73.5	180	3	12.8	0.4528	4.5139	22.575	1.6931	-
6.	Flare	20°15' 35.86"	86°36' 11.85"	15	162	140	331	1.5	0.025	0.0002	0.0023	0.0113	0.0008	-
Total (g/s)										0.453	5.6245	28.3541	1.6939	18902.53

Details of Solid waste/Hazardous waste generation and its management:

Solid Waste (Operation Phase):

Municipal solid waste:

S. No	Waste	Quantity (kg/day)			Collection method	Treatment / disposal method
		Existing	Proposed	After expansion		
1	Organic waste	410.94	108	518.94	Bins	Will be used in the existing organic waste converter and the resultant solid is used as manure
2	Inorganic waste	273.96	72	345.96	Bins	Authorized OSPCB vendors

Other Solid waste

S. No	Waste	Quantity (m ³ /hr)			Treatment / disposal method
		Existing	Proposed	After expansion	

1	ETP Sludge (Oily Sludge & Bio Sludge)	32.46	12.24	44.7	Oily Sludge - Reprocessed in Delayed Coker Unit Bio Sludge - Dried and used as manure
Oily Sludge		Oily sludge is generated mainly during cleaning of storage tanks and from ETP. Oily sludge is processed in a plant equipped with centrifuge in order to recover maximum possible oil and water. Water is drained into ETP for further treatment while the recovered oil is pumped into slop oil tanks for reprocessing in the refinery. The base sediment (residual oily sludge) in solid state has an oil content of around 3-8%wt and is Reprocessed in Delayed Coker Unit.			
Bio Sludge		Bio Sludge is thickened and dewatered separately and then sent for final disposal as manure.			

Existing Hazardous Waste Management:

S. No.	Details of Waste	Scheduled as per HWM rules	Existing Quantity TPY	Approved Quantity TPY	Frequency of disposal	Storage and Disposal
1	Spent catalyst	Schedule-I 4.2	2484.4	2500	Within 90 days	Stored in intermediate storage facility (covered warehouse with impervious floor and shed) Disposal in SLF - 1497.4 / Co-processing in cement industry - 987
2	Spent Clay	Schedule-I 4.5	145.5	720	Within 90 days	Directly sent to SLF
3	Ash	Schedule-I 37.2	36.0	-	Within 90 days	Directly sent to SLF
4	Oily Sludge	Schedule-I 4.1	1456.1	2748 (Oil sludge/ Emulsion/ Slop Oil)	Within 90 days	Directly sent to DCU for processing
5	Oily Sludge	Schedule-I 4.1	74.2		Within 90 days	Stored in impervious metallic

S. N o.	Details of Waste	Scheduled as per HWM rules	Existing Quantity TPY	Approved Quantity TPY	Frequency of disposal	Storage and Disposal
						containers before unloading in melting pit for oil recovery Sludge is disposed in HW incinerator
6	Coke	Schedule-I 4.4	16.7	180	Within 90 days	Sent to incinerator for disposal

Proposed Hazardous Waste Management

S.N o.	Details of Waste	Scheduled as per HWM rules	Proposed Quantity TPD	Frequency of disposal	Storage and Disposal
From PX unit					
1	Spent Clay from Clay Treaters	Schedule-I 4.5	0.12	Within 90 days	Captive SLF
2	Spent Catalyst from Reactor	Schedule-I 1.6	0.01	Within 90 days	Metals Recovery or Landfill in Captive SLF
3	Spent Clay from Clay Treater	Schedule-I 4.5	1.44	Within 90 days	Captive SLF
4	Spent Adsorbent from Adsorbent Chambers	Schedule-I 1.6	0.24	Within 90 days	Captive SLF
5	Catalyst from Reactor	Schedule-I 1.6	0.04	Within 90 days	Metal recovery by authorized recycler
6	Spent Clay from Clay Treater	Schedule-I 4.5	0.26	Within 90 days	Captive SLF

From PTA unit					
7	PTA Spent Catalyst	Schedule-I 1.6	0.0438	Within 90 days	Recovery by catalyst manufacturer
8	Filters, Oils	Schedule-I 3.3/5.1	0.0685	Within 90 days	Disposal in authorized HW incinerator / Sale to authorized users
9	Pails, Corrosion, Paint	Schedule-I 21.1	0.0137	Within 90 days	Sale to authorized users
10	Laboratory Solvents	Schedule-I 20.2	0.0003	Within 90 days	Disposal in ETP
11	Waste Solvents	Schedule-I 20.2	0.0110	Within 90 days	Disposal in ETP

Details of Certified compliance report submitted by RO, MoEF&CC officials done on 25-02-2021 and the compliance of EC recommendations was certified. Status of compliance is Partially Complied. Action taken report has been submitted on 04.06.2021 to RO, MOEFCC, Bhubhaneswar.

After detailed deliberations, EAC suggested that the PP shall install online monitoring system to monitor the effluent discharge being done. Greenbelt to be developed in an area of 33% out of total project area. Also, submit detailed study report on odour pollutants from the industry, their control and mitigation within petrochemical refinery after carrying out continuous monitoring for one month and the report shall be submitted within three (03) months to the Ministry.

The EAC, constituted under the provision of the EIA Notification, 2006 and comprising of Experts Members/domain experts in various fields, have examined the proposal submitted by the Project Proponent in desired form along with EIA/EMP report prepared and submitted by the Consultant accredited by the QCI/ NABET on behalf of the Project Proponent. The EAC noted that the Project Proponent has given undertaking that the data and information given in the application and enclosures are true to the best of his knowledge and belief and no information has been suppressed in the EIA/EMP report. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.

The Committee noted that the EIA/EMP report is in compliance of the ToR issued for the project, reflecting the present environmental concerns and the projected scenario for all the environmental components. The Committee has found the baseline data is within NAAQ standards. The Committee has deliberated the action plan proposed by the project proponent to arrest the incremental GLC due to the project. The

Committee has also deliberated on the CER plan and found to be addressing the issues in the study area.

The Committee noted that as per the extant rules of the Ministry, the projects involving Environmental & CRZ clearance which needs to be examined as per the CRZ Notification, 2011/2019. The Committee has taken cognizance of the recommendations of the OCZMA for CRZ clearance.

The EAC has deliberated the proposal and has made due diligence in the process as notified under the provisions of the EIA Notification, 2006, as amended from time to time and accordingly made the recommendations to the proposal. The Experts Members of the EAC have found the proposal in order and have **recommended** for grant of Environmental Clearance & CRZ Clearance subject to clearance by the CRZ division of the ministry.

The environmental & CRZ clearance granted to the project/activity is strictly under the provisions of the EIA Notification 2006 and its amendments. It does not tantamount/construe to approvals/consent/permissions etc. required to be obtained or standards/conditions to be followed under any other Acts/ Rules/ Subordinate legislations, etc., as may be applicable to the project. The project proponent shall obtain necessary permission as mandated under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, as applicable from time to time, from the State Pollution Control Board, prior to construction & operation of the project.

The EAC, after detailed deliberations, recommended the project for grant of environmental & CRZ clearance, *subject to comments on the admissibility of the project as per the CRZ Notification, 2011/2019*, and subject to compliance of terms and conditions as under, and general terms of conditions at Annexure: -

- (i). The project proponent shall comply with all the conditions stipulated in the OCZMA/CRZ recommendations and NOC issued for the same.
- (ii). The company shall submit detailed study report on odour pollutants from the industry, their control and mitigation within petrochemical refinery after carrying out continuous monitoring for one month and the report shall be submitted within three (03) months to the Ministry.
- (iii). The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented.
- (iv). Total fresh water requirement shall not exceed 89832 m³/day, proposed to be met from River Mahanadi. Necessary permission in this regard shall be obtained from the concerned regulatory authority. The fresh water requirement shall be reduced after installation of rainwater harvesting system in the unit/project area.

- (v). Comprehensive water audit to be conducted on annual basis and report to the concerned Regional Office of MEF&CC. Outcome from the report to be implemented for conservation scheme.
- (vi). Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.
- (vii). Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm, and solvent transfer to be done through pumps.
- (viii). Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF. The ash from boiler shall be sold to brick manufacturers/cement industry.
- (ix). Regular VOC monitoring shall be done at vulnerable points.
- (x). The oily sludge shall be subjected to melting pit for oil recovery and the residue shall be bio-remediated. The sludge shall be stored in HDPE lined pit with proper leachate collection system.
- (xi). Oil catchers/oil traps shall be provided at all possible locations in rain/ storm water drainage system inside the factory premises.
- (xii). The company shall undertake waste minimization measures as below:
 - a) Metering and control of quantities of active ingredients to minimize waste.
 - b) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes.
 - c) Use of automated filling to minimize spillage.
 - d) Use of Close Feed system into batch reactors.
 - e) Venting equipment through vapour recovery system.
 - f) Use of high pressure hoses for equipment cleaning etc. to reduce wastewater generation.
- (xiii). The green belt of 5-10 m width shall be developed in more than 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.
- (xiv). As per the Ministry's OM dated 30.09.2020 superseding the OM dated 01.05.2018 regarding the Corporate Environmental Responsibility, and as per the action plan proposed by the project proponent to address the socio-economic and environmental issues in the study area, the project proponent, as committed, shall provide education funds in technical training centers/ support in nearby village's schools, support in health care facilities, drinking water supply and funds for miscellaneous activities like solar street lights, battery, solar panel etc., in the nearby villages. The action plan shall to be completed within time as proposed.

- (xv). The project proponent shall ensure 70% of the employment to the local people, as per the applicable law. The project proponent shall set up a skill development center/provide skill development training to village people.
- (xvi). A separate Environmental Management Cell (having qualified person with Environmental Science/Environmental Engineering/specialization in the project area) equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.
- (xvii). The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.
- (xviii). Continuous online (24x7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server. In case of the treated effluent to be utilized for irrigation/gardening, real time monitoring system shall be installed at the ETP outlet.
- (xix). PP to set up occupational health Centre for surveillance of the worker's health within and outside the plant on a regular basis. The health data shall be used in deploying the duties of the workers. All workers & employees shall be provided with required safety kits/mask for personal protection.
- (xx). The National Emission Standards for Petrochemical (Basic & Intermediates) issued by the Ministry vide G.S.R. 820 (E) dated 9th November, 2012 as amended time to time shall be followed.
- (xxi). Recommendations of mitigation measures from possible accident shall be implemented based on Risk Assessment studies conducted for worst case scenarios using latest techniques.
- (xxii). The project proponent shall develop R& D facilities to develop their own technologies for propylene and polypropylene processing.

Agenda No. 37.3

Exploration, Development and production in five onshore PML blocks in AAFB, A&AA Basin, by M/s Oil and Natural Gas Corporation Limited Cachar District and Karimganj District, Assam– Consideration of Environment Clearance reg.

[IA/AS/IND2/75296/2018, J-11011/197/2018-IA-II(I)]

The project proponent and their consultant M/s Vimta Labs Ltd., made a detailed presentation through Video Conferencing (VC) on the salient features of the project.

The proposal is for Environmental Clearance to the project for Exploration, Development and Production in Five Onshore PML Blocks in AAFB, A&AA Basin, Cachar District and Karimganj District, Assam by M/s. Oil and Natural Gas Corporation Limited.

The proposed project/activity is covered under category 'A' of item 1(b) 'Offshore and Onshore Oil and Gas Exploration, development and Production'. Activities listed in this category require prior Environmental Clearance (EC) from Ministry of Environment, Forest and Climate Change (MoEF&CC) before commencement of ground activity.

The application (proposal no.: IA/AS/IND2/75296/2018) for prior EC along with Form-1 and Pre-Feasibility Report (PFR) for the proposed well drilling & production of hydrocarbons project in Assam has been submitted to MoEF&CC on 12th June 2018 and same was reviewed by the Expert Appraisal Committee (Industry-II). The Terms of Reference (TOR) for the preparation of EIA report has been issued by MoEF&CC vide letter reference no. IA-J-11011/197/2018-IA-II (I) dated 16th July 2018. The Public Hearing for the proposed project has been conducted by State Pollution Control Board on 26th November, 2020 in Cachar District chaired by Additional Deputy Commissioner, Cachar and 27th November, 2020 in Karimganj Districts Chaired by Additional Deputy Commissioner, Karimganj in Assam. The main issues raised by public were related to land compensation, employment opportunities and CSR activities. It was informed that no litigation is pending against the proposal.

The details of products and capacity are as under:

S.No	Product Details	Quantity	Mode of Transport
1	Oil & Gas	33	Pipeline

The projects area is covered in 5 different PML blocks measuring a total area of 670 Sq.km. The PML Block details are as follows:

Sr. No.	Block Name	Area (Sq. Km)	Wells Proposed for Drilling	Average Depth (meter)
1	Banskandi PML	15.0	33 Wells are proposed to be drilled	2500-4000 m.
2	Bhubandar PML	6.0		
3	Sector VC PML	497.0		
4	Adamtila PML	4.0		
5	Adamtila Extension PML	148.0		
Total		670		

The land required for the drill site area will be limited to 1.1 ha (100 m x 110 m) per well. Drilling is a temporary activity for 3 -4 months only. ONGC will acquire the land for above activities on a temporary basis and

if sufficient hydrocarbons reserves are discovered for well development, the land will be legally acquired on long term lease basis. The estimated project cost for the proposed project is about Rs.1850 Crores. The total capital cost for environmental control measures is Rs. 99 Crores (for each well site Rs. 3 Crores) and total recurring cost for environmental control measures is Rs. 19.8 Crores (for each well site Rs. 0.6 Crores). Total Employment will be 155 persons directly and indirectly. CER cost is Rs. 17.25 Lakhs allocated for different areas.

The Borail Wildlife Sanctuary is located at a distance of 1.3 km from Sector VC-PML Block boundary and the 10 km radius protected area (ESZ) boundary from the Borail Wildlife Sanctuary falls within the Sector VC-PML Block covering an area of 133.11 sq.km in Cachar District. It is to be noted that the ESZ boundary of Borail Wildlife Sanctuary has not been declared. However, the nearest well location (NL-EC-28) is located at a distance of 12.4 km from the Borail WLS. This has been considered for demarcation purposes as per the clause 4.1 of MoEF directives – F.No. 1-9/2007 WL-I(Pt) dated 09.02.2011 on "Guidelines for Declaration of Eco-Sensitive Zones around National Parks and Wildlife Sanctuaries" wherein the width of ESZ go up to 10 km. Rowa Wildlife Sanctuary and its ESZ boundary has been notified vide MoEFCC Notification No. S.O. 1566(E) dated 8th May, 2017. Rowa Wildlife Sanctuary and its ESZ boundary is located at a distance of 4.7 km away from Adamtila Extension Block boundary and 27.2 km away from the nearest well location (NL-EC-18) in Karimganj District. The drilling activities will not be conducted in any reserved forest or protected forest land.

The ambient air quality of the project area is reported through primary ambient air quality monitored at 17 locations during non-monsoon season, covering post-monsoon season and partly winter season of 2019. The AAQ monitoring was conducted within the period starting from 1st October 2019 to 31st December 2019. Out of the 17 locations the maximum concentration for Particulate Matter (PM_{2.5}) was observed as 42.2 µg/m³ and the minimum concentration observed as 12.3 µg/m³ during the study period, which are well within the NAAQ standards i.e 60 µg/m³. The minimum and maximum concentration PM₁₀ varies between 26.1 µg/m³ to 65.7 µg/m³ respectively during the study period which are well within the NAAQ standards i.e 100 µg/m³. The concentrations of SO₂ ranges between 11.5 µg/m³ to 27.4 µg/m³ which are well within the NAAQ standards i.e 80 µg/m³. The concentrations of NO₂ were varied between 14.0 µg/m³ to 32.8 µg/m³ respectively which are well within the NAAQ standard i.e 80 µg/m³. The concentrations of CO were varied between 153 µg/m³ to 423 µg/m³ respectively which are well within the NAAQ standard i.e 2000 µg/m³. VOCs were observed in the range of <0.1 to 0.22 ppm during the study period. Methane Hydrocarbons (CH₄HC) are observed in the range of <0.1 to 0.15 during the study. Non-Methane Hydrocarbons

(Non-CH₄H₂C) are observed in the range of <0.1 to 0.13 during the study. Benzene was found to be less than 1.0 µg/m³ and BaP is less than 1.0 ng /m³ at all locations. All heavy metals specified in the NAAQs 2009 i.e., Ni, Hg, Pb and as were found to be BDL. From the analysis of the monitored data, it infers that the air quality levels in the study area are of fairly good quality and comply with the National Ambient Air Quality Standards (NAAQ). The Air Dispersion Modeling reveals that the maximum incremental short-term 24-hourly ground level concentrations for SO₂ and NO₂ likely to be encountered due to DG sets and during test flaring are 0.36 µg/m³ and 12.46 µg/m³ occurring at a distance of 0.2 km in E direction. The predictions indicate that the SO₂ and NO₂ concentrations are likely to be well within the prescribed limit for residential and rural zone. Based on the above it can be inferred that the ambient air quality in the study area is unlikely to be affected due to the proposed drilling of wells.

Total Freshwater requirement will be 25 m³/day. The water required will be transported through tankers from nearby source. Water is basically required for preparing drilling mud, direct washing of drill cuttings, cooling of gas engines and for meeting domestic needs of the campsite. About 14 m³/day will be generated and treated in mobile ETP (10 m³/day treated water will be reused). There will be no discharge of treated or un-treated wastewater from the drilling sites. Approximately, 14 m³/day of wastewater will be expected to be generated. All wastewater streams except sewage will be directed to a 1.5 mm HDPE lined pit. Wastewater collected in the pit will be treated in wastewater treatment plant for removal of oil and suspended solids and will be further reused. Produced water generation is not envisaged during the drilling phase.

The total power requirement at each drilling site and camp site will be 6000 KVA (4 No x 1500 KVA). The power requirement in the drilling site and the campsites will be catered through 3 Diesel Generator (DG) sets at a time. The power requirement of the drilling rig will be met by using the 4 Diesel Generator sets with a diesel consumption of about 6 KLD. The exhaust stacks of the DG sets are likely to vent the emissions. Each power generator will have the adequate stack height for easy dispersion of gaseous emissions. The height of the DG exhaust stack will be about 7.5 m (including the height of the trailer from the ground).

The drilling operations generate drill cuttings. The minor wastes include sanitary waste, domestic waste and waste oil from lubricating system. The drill cuttings will be separated in the shale shaker from the drilling mud and are disposed to an impervious 1.5 mm HDPE lined pit. The drill cuttings will be washed thoroughly and the wastewater generated will be treated and recycled. The washed drill cuttings would then be collected in a HDPE lined pit. Blowout preventer (BOP) systems will be installed to prevent well blowouts during the drilling operations.

The EAC, constituted under the provision of the EIA Notification, 2006 and comprising of Experts Members/domain experts in various fields, have examined the proposal submitted by the Project Proponent in desired form along with EIA/EMP report prepared and submitted by the Consultant accredited by the QCI/ NABET on behalf of the Project Proponent. The EAC noted that the Project Proponent has given undertaking that the data and information given in the application and enclosures are true to the best of his knowledge and belief and no information has been suppressed in the EIA/EMP report. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.

The Committee noted that the EIA/EMP report is in compliance of the ToR issued for the project, reflecting the present environmental concerns and the projected scenario for all the environmental components. The Committee has found the baseline data is within NAAQ standards. The Committee has deliberated the action plan proposed by the project proponent to arrest the incremental GLC due to the project. The Committee has also deliberated on the CER plan and found to be addressing the issues in the study area.

The EAC has deliberated the proposal and has made due diligence in the process as notified under the provisions of the EIA Notification, 2006, as amended from time to time and accordingly made the recommendations to the proposal. The Experts Members of the EAC have found the proposal in order and have **recommended** for grant of Environmental Clearance.

The environmental clearance granted to the project/activity is strictly under the provisions of the EIA Notification 2006 and its amendments. It does not tantamount/construe to approvals/consent/ permissions etc. required to be obtained or standards/conditions to be followed under any other Acts/ Rules/ Subordinate legislations, etc., as may be applicable to the project. The project proponent shall obtain necessary permission as mandated under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, as applicable from time to time, from the State Pollution Control Board, prior to construction & operation of the project.

The EAC, after detailed deliberations, **recommended** the project for grant of environmental clearance and subject to compliance of terms and conditions as under, and general terms of conditions at Annexure: -

- (i). The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented.
- (ii). No pipelines or its part shall be laid in the Forest land/Protected Area without prior permission/approval from the Competent Authority.

- (iii). The project proponent will treat and reuse the treated water within the drilling site location including at processing location and no waste or treated water shall be discharged outside the premises under any condition. Mobile ETP coupled with RO and mobile STP shall be installed to treat the waste water and sewage waste respectively.
- (iv). During production, storage and handling, the fugitive emission of methane, if any, shall be monitored using Infra-red camera/ appropriate technology.
- (v). The project proponent also to ensure trapping/storing of the CO₂ generated, if any, during the process and handling.
- (vi). Approach road shall be made pucca to minimize generation of suspended dust.
- (vii). The project proponent shall make all arrangements for control of noise from the drilling activity. Acoustic enclosure shall be provided for the DG sets along with the adequate stack height as per CPCB guidelines.
- (viii). Total fresh water requirement shall not exceed 25 KLD. Prior permission shall be obtained from the concerned regulatory authority. Mobile ETP coupled with RO shall be installed to reuse the treated water in drilling system. Size of the waste pit shall be equal to the hole volume + volume of drill cutting and volume of discarded mud if any. Two feet free board may be left to accommodate rain water. There shall be separate storm water channel and rain water shall not be allowed to mix with waste water. Alternatively, if possible, pit less drilling be practiced instead of above.
- (ix). The company shall construct the garland drain to prevent runoff of any oil containing waste into the nearby water bodies. Separate drainage system shall be created for oil contaminated and non-oil contaminated.
- (x). Drill cuttings separated from drilling fluid shall be adequately washed and disposed in HDPE lined pit. Waste mud shall be tested for hazardous contaminants and disposed according to HWMH Rules, 2016. No effluent/drilling mud shall be discharged/disposed off into nearby surface water bodies. The company shall comply with the guidelines for disposal of solid waste, drill cutting and drilling fluids for onshore drilling operation notified vide GSR.546(E) dated 30th August, 2005.
- (xi). 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.
- (xii). The project proponent shall take necessary measures to prevent fire hazards, containing oil spill and soil remediation as needed. At fixed installations or plants use of ground flare shall be explored. At the place

of ground flaring, the overhead flaring stack with knockout drums shall be installed to minimize gaseous emissions during operation.

- (xiii). The project proponent shall develop a contingency plan for H₂S release including all necessary aspects from evacuation to resumption of normal operations. The workers shall be provided with personal H₂S detectors in locations of high risk of exposure along with self-containing breathing apparatus.
- (xiv). Blow Out Preventer system shall be installed to prevent well blowouts during drilling operations.
- (xv). On completion of the project, necessary measures shall be taken for safe plugging of wells with secured enclosures to restore the drilling site to the original condition. The same shall be confirmed by the concerned regulatory authority from environment safety angle. In case of hydrocarbon not found economically viable, a full abandonment plan shall be implemented for the drilling site in accordance with the applicable DGH / Indian Petroleum Regulations.
- (xvi). As per the Ministry's OM dated 30.09.2020 superseding the OM dated 01.05.2018 regarding the Corporate Environmental Responsibility, and as per the action plan proposed by the project proponent to address the socio-economic and environmental issues in the study area, the project proponent, as committed, shall provide education funds in technical training centers/ support in nearby village's schools, support in health care facilities, drinking water supply and funds for miscellaneous activities like solar street lights, battery, solar panel etc., in the nearby villages. The action plan shall to be completed within time as proposed.
- (xvii). No lead acid batteries shall be utilized in the project/site.
- (xviii). Occupational health surveillance of the workers shall be carried out as per the prevailing Acts and Rules. All workers & employees shall be provided with required safety kits/mask for personal protection.
- (xix). Oil content in the drill cuttings shall be monitored if oil-based mud is used and report shall be sent to the Ministry's Regional Office.
- (xx). The project proponent shall prepare operating manual in respect of all activities, which would cover all safety & environment related issues and measures to be taken for protection. One set of environmental manual shall be made available at the drilling site/ 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. Remote monitoring of site should be done.

08th July, 2021 (Thursday)

Agenda No. 37.4

Capacity Expansion of existing Grain Base Distillery from 241 KLD of total spirit to 441 KLD with addition of 200 KLD fuel Ethanol Plant by M/s. Associated Alcohols and Breweries Limited located at Khasara No. 34/1, 31 Village- Khodi, Tehsil – Badwaha, District Khagone (MP) - Consideration of Environment Clearance.

[IA/MP/IND2/198249/2016, J-11011/64/2016-IA II (I)] -

The Project Proponent and the Accredited Consultant M/s. Creative Enviro Services, Bhopal made a detailed presentation on the salient features of the project and informed that:

The proposal is for environmental clearance to the project Capacity Expansion of existing Grain Base Distillery from 241 KLD of total spirit to 441 KLD with addition of 200 KLD fuel Ethanol Plant by M/s. Associated Alcohols and Breweries Limited located at Khasara No. 34/1, 31 Village-Khodi, Tehsil – Badwaha, District Khagone (MP).

The project proposal is applied for environment clearance as it does not require ToR & Public Hearing is exempted as per EIA notification 2006 and its amendment vide gazette notification of MoEF&CC vide no 750-E dated 17th February 2020 and SO- 2339 dated 16th June 2021. It was informed that no litigation is pending against the proposal.

All grain based fuel ethanol plant (>200 KLD) are listed at S.N. 5(ga) ii of Schedule of Environmental Impact Assessment (EIA) Notification and amendment vide no SO- 2339 dated 16th June 2021 under category 'B-2' and appraised at Central Level by Expert Appraisal Committee (EAC).

Ministry had issued EC earlier vide letter no -11011/64/2016/IA-II-(I) dated 8th January 2018 to the exiting project of grain based distillery of 241 KLD & 8 MW Co gen Plant in favour of M/s. Associated Alcohols & Breweries Limited.

The details of products and capacity are as under:

Sr No	Product Details	Existing Quantity	Proposed Quantity	Total Quantity
1.	Total Spirit	241 KLD	200 KLD of fuel ethanol unit	Total Spirit (241 KLD) and 200 KLD fuel Ethanol Unit
2	Co-generation of Power	8 MW	14 MW	22 MW
3	DDGS	125 TPD	130 TPD	255

Existing land area is 30 acres having built-up area of 27768 sq mtrs. No additional land is required for proposed expansion. Green belt has been developed in area of 30% i.e. 11.43 acres of area with 9370 number of trees. Further 10046 sq mtrs shall be developed within 02 years of time.

The estimated project cost is Rs 477.14 crores including existing investment of Rs. 188.67 crores. Total capital cost for environmental measures is proposed as Rs 5314 Lakhs. The recurring cost (operation and maintenance) will be about Rs 203 lakhs per annum. Total Employment will be 650 persons after expansion as direct & 900 persons as indirect after expansion. Industry proposes to allocate Rs. 4.7 Crores (2.5% of project cost) towards Corporate Social Responsibility.

There are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. lies within 10 km distance. Three reserve forest and one protected forest are reported in the study area. Major River Narmada is flowing at a distance of 8.80 km in SSE direction whereas seasonal Gularjhira river is flowing at a distance of 1.15 km in W direction.

Though the project comes under category B-2 but Ambient air quality monitoring was carried out and baseline data indicates that ranges of concentrations of PM10 (44.99 to 62.62 $\mu\text{g}/\text{m}^3$), PM2.5 (19.74 to 28.34 $\mu\text{g}/\text{m}^3$), SO₂ (5.16 to 8.96 $\mu\text{g}/\text{m}^3$) and NO_x (10.63 to 20.30 $\mu\text{g}/\text{m}^3$) respectively. AAQ modeling study for point source emissions indicates that the total GLCs after the proposed project would be 63.36 $\mu\text{g}/\text{m}^3$, 16 $\mu\text{g}/\text{m}^3$ and 22.97 $\mu\text{g}/\text{m}^3$ with respect to PM10, SO_x and NO_x. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

Net fresh water requirement of the plant will be around 1540 KLPD after capacity expansion which is inclusive of existing requirement of 844 KLPD. The total capacity of the plant will be 441 KLPD, hence fresh water requirement per KL of alcohol will be 3.5 KL/KL and will be met from River Narmada and Ground water resources. Multi Effect Evaporator with thermal recompression for thin slops evaporation and CPU is proposed for treatment to maintain zero discharge condition. For existing operation of 241 KLD, spent wash generation is reported at about 1402 KLD whereas spent wash generation for proposed unit is estimated at about 1538.

Power requirement after expansion will be 8830 KWH including existing 4670 KWH and will be met from Co generation unit of 8 MW and 14 MW. Existing unit has DG sets of 750 KVA and 1250 KVA having Stack (height 30 mt) as per CPCB norms and will be used as standby during power failure. Existing unit has 03 boilers of 20,12 & 08 TPH, which are coal fired. Additionally, 75 TPH coal fired will be installed. ESP with a stack of height of 54m will be installed for controlling the Particulate emissions (within statutory limit of 115 mg/Nm³) for proposed boiler.

Details of process emissions generation and its management:

PM, SO₂, NO_x will be generated from the fuel combustion. Following measures are proposed for implementation:

- ESP shall be provided at stack of boiler to control the emission below 50 mg per cubic meter
- Adequate stack height of 50 mt for boiler shall be provided for better dispersion.
- Dust collectors system shall be provided at various material transfer points.
- Online continuous monitoring system shall be provided for stack of boiler
- Development of green belt is in process and shall be continue in consultation with forest department
- Dense phase conveying system for ash handling shall be provided to prevent the fugitive emission.
- Provision of cover over coal conveyors belt along with dust suppression system
- Provision of dust mask for workers and instruction of compulsory use.
- Regular maintenance and water spraying arrangement over approach road of the unit crossing the village and meeting to SH
- It is proposed to use low sulphur coal in the boiler.
- CO2 generated during the fermentation process will be collected by utilizing CO2 Scrubbers.

Details of Solid waste/Hazardous waste generation and its management:

Detail Of By Products / Solid/Hazardous Waste And Management					
Type Of Waste	Quantity (existing)	Quantity (proposed)	Storage	Utilization/ Disposal	
DDGS (by product)	125 TPD	130 TPD	Covered shed	Sold as cattle feed directly	
Boiler ash	(65TPD)	105 TPD	Silo	Brick making to Brick Manufacturing unit at Barwaha Industrial area	
Waste papers/Boxes	2 T.P.D.	1.5-2 TPD	Covered shed	Sale to recyclers	
Used Oil	< 500 lit per year	< 500 lit per year	HDPE drums in covered shed	Given to re-cycler authorized by MPPCB/MoEF	
Waste Resin From DM plant	200 Kg per year	Nil	Store in MS Drums	Shall be disposed off at TSDF, Pithampur	

Certified compliance report has been issued by RO, MoEFCC vide no 5-86/2018(ENV)/276 dated 31.03.2021 mentioning that out of total 37

conditions, it may be seen that 7 are complied, 18 are being complied, 8 are agreed to comply with 4 are compliance is in progress. These 04 conditions viz. development of green belt, socio-economic development activities, eco developmental activities is continuous process and therefore it has been mentioned as compliance is in progress.

As per OM dated 16th June, 2021, PP has submitted self-certification in the form of affidavit declaring that the proposed capacity of 200 KLPD will be for manufacturing of fuel ethanol only.

After detailed deliberations, EAC desired certain commitments as follows:

- (i). PP shall use fresh water to the tune of 3.5 KL/KL of alcohol produced for total (existing as well as proposed) capacity i.e. 441 KLPD. Revised water balance shall be submitted taking into account rainwater storage quantity also.
- (ii). Surface water permission shall correspond to the quantity of fresh water required after achieving 3.5 KL/KL of alcohol produced for combined production.
- (iii). Low Sulphur coal shall be used with Sulphur less than 0.5 %.
- (iv). For disposal of ash, briquetting plant shall be installed within plant premises and no ash shall be transported outside plant premises.
- (v). No recharging shall be done within plant premises whereas rainwater shall be stored in ponds and reused within plant premises.

PP has submitted the revised water balance as desired by EAC and agreed on all above points.

The EAC, constituted under the provision of the EIA Notification, 2006 and comprising of Experts Members/domain experts in various fields, have examined the proposal submitted by the Project Proponent in desired form along with the EMP report prepared and submitted by the Consultant accredited by the QCI/ NABET on behalf of the Project Proponent. The EAC noted that the Project Proponent has given undertaking that the data and information given in the application and enclosures are true to the best of his knowledge and belief and no information has been suppressed in the report. If any part of data/information submitted is found to be false/misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.

The Committee deliberated on the CER plan and found to be addressing the issues in the study area. The EAC has deliberated the proposal and has made due diligence in the process as notified under the provisions of the EIA Notification, 2006, as amended from time to time and accordingly made the recommendations to the proposal. The Experts Members of the EAC have found the proposal in order and have **recommended** for grant of environmental clearance.

The environmental clearance granted to the project/activity is strictly under the provisions of the EIA Notification 2006 and its amendments. It does not tantamount/construe to approvals/consent/ permissions etc. required to be obtained or standards/conditions to be followed under any other Acts/ Rules/ Subordinate legislations, etc., as may be applicable to the project. The project proponent shall obtain necessary permission as mandated under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, as applicable from time to time, from the State Pollution Control Board, prior to construction & operation of the project.

The EAC, after detailed deliberations, **recommended** the project for grant of environmental clearance, subject to compliance of terms and conditions as under, and general terms of conditions at Annexure: -

- (i). As per OM dated 16th June, 2021, project falls in category B2 and the proposed additional capacity of 200 KLPD shall be only for fuel ethanol manufacturing as per self-certification in form of an affidavit by the Project Proponent. Provided that subsequently if it is found that the ethanol, produced based on the EC granted as per this dispensation, is not being used completely for EBP Programme, or if ethanol is not being produced, or if the said distillery is not fulfilling the requirements based on which the project has been appraised as category B2 project, the EC shall stand cancelled.
- (ii). Low sulphur coal having sulphur less than 0.5% shall be used in boilers.
- (iii). The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented.
- (iv). The project proponent will treat and reuse the treated water within the factory and no waste or treated water shall be discharged outside the premises.
- (v). Total fresh water requirement after expansion will be 1540 KLPD which will be met from River Narmada. Prior permission shall be obtained for 1540 KLPD only from the concerned regulatory authority/Irrigation division in this regard, and renewed from time to time. No ground water recharge shall be permitted within the premises. Rainwater shall be collected in storage ponds and utilized for plant activities. Ground water monitoring shall be done regularly and report is to be submitted to concerned authorities regularly.
- (vi). The spent wash shall be dried to form DDGS. Ash shall be utilized within plant premises in briquetting plant and no ash shall be transported outside plant premises.

- (vii). CO₂ generated from the process shall be bottled/made solid ice and utilized/sold to authorized vendors.
- (viii). Occupational Health Centre for surveillance of the worker's health shall be set up. The health data shall be used in deploying the duties of the workers. All workers & employees shall be provided with required safety kits/mask for personal protection.
- (ix). Training shall be imparted to all employees on safety and health aspects of chemicals handling. Safety and visual reality training shall be provided to employees.
- (x). The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.
- (xi). Process organic residue and spent carbon, if any, shall be sent to Cement other suitable industries for its incinerations. ETP sludge, process inorganic & evaporation salt shall be disposed of to the TSDF.
- (xii). The company shall undertake waste minimization measures as below
(a) Metering and control of quantities of active ingredients to minimize waste; (b) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. (c) Use of automated filling to minimize spillage. (d) Use of Close Feed system into batch reactors. (e) Venting equipment through vapour recovery system. (f) Use of high pressure hoses for equipment clearing to reduce wastewater generation.
- (xiii). The green belt of at least 5-10 m width shall be developed in nearly 33% of the total project area, mainly along the plant periphery. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department. Records of tree canopy shall be monitored through remote sensing map.
- (xiv). As per the Ministry's OM dated 30.09.2020 superseding the OM dated 01.05.2018 regarding the Corporate Environmental Responsibility, and as per the action plan proposed by the project proponent to address the socio-economic and environmental issues in the study area, the project proponent, as committed, shall provide education funds in technical training centers/ support in nearby village's schools, support in health care facilities, drinking water supply and funds for miscellaneous activities like solar street lights, battery, solar panel etc., in the nearby villages. The action plan shall be completed within time as proposed.
- (xv). There shall be 20% parking space out of total area of plant site which shall be earmarked for parking of vehicles for raw materials and finished products, and no parking to be allowed outside on public places.

- (xvi). Storage of raw materials shall be either stored in silos or in covered areas to prevent dust pollution and other fugitive emissions.
- (xvii). Continuous online (24x7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server. For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises.
- (xviii). A separate Environmental Management Cell (having qualified person with Environmental Science/Environmental Engineering/specialization in the project area) equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.

Agenda No. 37.5

Expansion of Distillery capacity from 60 KLPD to 180 KLPD at Village Duggavathi, Taluk Harapanahalli, District Bellary (Karnataka) by M/s Indian Cane Power Limited– Amendment in Environment Clearance regarding.

[IA/KA/IND2/106218/2001, J-11011/83/2001-IA II(I)]

The proposal is for amendment in the Environmental Clearance granted by the Ministry of Environment, Forest and Climate Change (MOEF&CC), New Delhi vide letter no. J-11011/83/2001-IA II (I) dated 07.01.2020 for the project expansion of Distillery capacity from 60 KLPD to 180 KLPD at Village Duggavathi, Taluk Harapanahalli, District Bellary (Karnataka) by M/s Indian Cane Power Limited.

The project proponent has requested for amendment in the EC with details as under:

Sl .No	Para of EC issued by MoEF&CC	Details as per EC	To be revised as	Justification
1	Page No. 1, Point No. 6	Spentwash will be concentrated and used as fuel in the incineration boiler. There	Spentwash will be treated through bio-methanation process and concentrated in Multi Effect	Management has decided to adopt drying technology for spentwash treatment after digestion & concentration instead of spentwash

		will be no discharge of treated/ untreated waste water from the unit and thus ensuring Zero Liquid Discharge.	Evaporator (MEE) and shall be dried to form powder in Dryer . There will be no discharge of treated/ untreated waste water from the unit and thus ensuring Zero Liquid Discharge.	incineration. Spentwash powder fetches good revenue & offers value addition along with 100% Bio-organics recycling. Thus, spentwash drying is a proven & successful technology giving good results.
2	Page No. 2 Point No. 6, Para 4	Spent wash / biogas/husk/c oal fired boiler of capacity 45 TPH shall be installed, with ESP and stack of height of 85 M to control the particulate emissions within statutory limits.	Husk/ biogas/ bagasse fired 45 TPH regular boiler shall be installed, with ESP and stack of height of 85 M to control the particulate emissions within statutory limits.	Spentwash will not be incinerated, incineration boiler will not be installed instead of same 45 TPH regular Husk/ biogas/ bagasse fired boiler will be installed.
3	Page No. 2, Point No. 9, Sub Point No. iii	Concentrated Spentwash shall be incinerated and not to be released in open space.	Bio-methanation & Concentrated Spentwash shall be dried to form powder in Dryer .	Management has decided to adopt drying technology for spentwash treatment after digestion & concentration instead of spentwash incineration. Spentwash powder fetches good revenue & offers value addition along with 100% Bio-organics recycling. Thus, spentwash

				drying is a proven & successful technology giving good results.
4	Page No. 3 Under EC Conditions	--	Distillery shall be operated for 330 Days.	No mention of Distillery Operational Days in EC.

After detailed deliberations EAC **recommended** the amendments in EC, as proposed by the project proponent, with all other terms and conditions remain unchanged.

Agenda No. 37.6

Expansion of Molasses/Grain based Distillery from 200 KLD to 350 KLD by M/s Dhampur Sugar Mills Limited at Village Alhaipur, Tehsil Dhampur, District Bijnor (UP)– Amendment in Environment Clearance regarding.

[IA/UP/IND2/212256/2021, J-11011/586/2017-IA II(I)]

The proposal is for amendment in the Environmental Clearance granted by the Ministry of Environment, Forest and Climate Change (MOEF&CC), New Delhi vide letter no. J-11011/586/2017-IA-II (I) dated 20.03.2019 for the project expansion of Molasses/Grain based Distillery from 200 KLD to 350 KLD at Village Alhaipur, Tehsil Dhampur, District Bijnor (UP) by M/s Dhampur Sugar Mills Limited.

The project proponent has requested for amendment in the EC with details as under:

Sl. No	Para of EC issued by MoEF&CC	Details as per EC	To be revised as	Justification
1	EC point No. 5 (Paragraph 3)	Existing unit has 40TPH incinerator boiler.	It is proposed to replace 40 TPH Incinerator Boiler by Spent Wash Dryer	The 40 TPH Boiler was not giving satisfactory technical results and has since been abandoned. The Distillery Operational Capacity was accordingly reduced

				to 220 KLPD. We propose to operate Distillery @250 KLPD and to ensure ZLD shall be utilizing the present 75 TPH Incinerator Boiler and adequate Capacity concentrated Spent Wash dryer
--	--	--	--	--

After detailed deliberations EAC **recommended** the amendments in EC, as proposed by the project proponent, with all other terms and conditions remain unchanged.

GENERAL CONDITIONS FOR ENVIRONMENTAL CLEARANCE

- (i) No further expansion or modifications in the plant, other than mentioned in the EIA Notification, 2006 and its amendments, shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change/SEIAA, as applicable. 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/SEIAA, as applicable, to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.
- (ii) The energy source for lighting purpose shall be preferably LED based, or advanced having preference in energy conservation and environment betterment.
- (iii) 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 the Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).
- (iv) The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. CER activities shall be undertaken by involving local villages and administration and shall be implemented. The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.
- (v) The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.
- (vi) A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zilla Parishad/Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.
- (vii) The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance

conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF&CC, the respective Zonal Office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.

- (viii) The environmental statement for each financial year ending 31st March in Form-V as is mandated shall be submitted 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 along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of MoEF&CC by e-mail.
- (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 SPCB/Committee and may also be seen at Website of the Ministry and at <https://parivesh.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 concerned Regional Office of the Ministry.
- (x) The 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 start of the project.
- (xi) This Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, if any, as may be applicable to this project.

List of the Expert Appraisal Committee (Industry-2) members participated during Video Conferencing (VC) meeting

S. No.	Name and Address	Designation
1.	Dr. J. P. Gupta	Chairman
2.	Sh. R.K. Singh	Member
3.	Ms. Saloni Goel	Member
4.	Sh. Ashok Agarwal	Member
5.	Dr. Y.V. Rami Reddy	Member
6.	Sh. S.C. Mann	Member
7.	Dr. T. K. Joshi	Member
8.	Dr. J. S. Sharma	Member
9.	Sh. Dinabandhu Gouda, CPCB	Member
10.	Sh. Sanjay Bist, IMD	Member
11.	Sh. Ashok Kr. Pateshwary, Director, MoEFCC	Member Secretary
MoEFCC		
12.	Dr. Mahendra Phulwaria	Scientist 'C'
13.	Sh. Kanaka Teja	Research Assistant
14.	Ms. Meetika Gupta	Research Associate
