

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

Dated: 30.09.2020

MINUTES OF THE 23rd MEETING OF THE EXPERT APPRAISAL COMMITTEE
(INDUSTRY-2 SECTOR FOR PETRO-CHEMICAL BASED PROJECTS),
HELD ON 18th SEPTEMBER, 2020

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 offered by the EAC members on the minutes of its 22nd Meeting of the EAC (Industry-2) held during 20th August, 2020 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: -

18th September, 2020 (Friday)

Consideration of Environmental Clearance

Agenda No. 23.1

Expansion of Petro-Chemical Complex by adding Polypropylene Unit at Pata, District Auraiya, Uttar Pradesh by M/S GAIL- Consideration of Environment Clearance.

[IA/UP/IND2/161777/2019, File No: J-11011/595/2010-IA(II)]

The proposal was earlier considered by the EAC in its meeting held on 20th August, 2020. The EAC during deliberations noted that the documents and information submitted by the project proponent is not adequate to examine the proposal. The Committee after detailed deliberations desired for more comprehensive presentation with all the requisite additional documents for consideration of the proposal.

The Project Proponent and the accredited Consultant M/s. Engineers India Limited made a detailed presentation on the salient features of the project and informed that:

The proposal is for environmental clearance to the project for Expansion of Petrochemical Complex by Adding Polypropylene Unit at Pata, District Auraiya, Uttar Pradesh by M/s GAIL (India) Limited.

The project/activity is covered under Category A of items 5(c) "Petro-chemical complexes" of the Schedule to the Environment Impact Assessment (EIA) Notification 2006 and requires appraisal at Central Level by Expert Appraisal Committee (EAC).

The Standard TOR was issued vide letter no. J-11011/595-2010/-IA-II(I) dated 13th September, 2019 and amendment in ToR exempting public hearing for the proposed project was issued on 06/03/2020.

The details of products and capacity as under:

Sr No.	Product Details	Existing Quantity (TPA)	Proposed Quantity (TPA)	Total Quantity (TPA)
1	Benzene rich Gasoline	32800	0	32800
2	Mixed Fuel Oil	15693	0	15693
3	High Density Polyethylene	200000	0	200000
4	LPG	271059	0	271059
5	Pentane	31200	0	31200
6	Butene	30000	0	30000
7	Pyrolysis Fuel Oil	12000	0	12000
8	Naphtha	31200	0	31200
9	Propylene	63712	0	63712
10	Linear Low Density Polyethylene	610000	0	610000
11	Hydrogenated C4 Mix	23320	0	23320
12	Propane	23048	0	23048
13	Polypropylene	0	60000	60000

The Ministry has issued following Environmental Clearances in favor of M/s GAIL Pata. The details of all ECs are given below. Certified compliance report was issued by Regional Office, MoEFCC, Lucknow vide letter no. IV/ENV/UP/IND135/342/2012/701 dated 11/05/2020.

Sl. No.	Projects/ Units	Environment Clearance document	Dated
1.	Gail Pata Green field Petrochemical Project	J-11011/22/90-IA-II	30/03/1992
2.	LPG Recovery Facility at Pata Petrochemical complex	J-11011/29/96-IA-II(I)	16/01/1997
3.	Expansion of LLDPE/HDPE unit by debottlenecking	J-11011/237/2003-IA-II(I)	19/04/2004
3.	Expansion of Pata Petrochemical complex	J-11011/143/2004-IA-II(I)	12/01/2005
4.	Expansion of Petrochemical Project	J-11011/595/2010-IA-II(I)	23/05/2012

Total area of Pata Petrochemical Complex is 582.23 Ha. The proposed Polypropylene plant is coming within the existing Petrochemical Complex. No additional land is required. Pata Petrochemical Complex has already developed greenbelt in an area of 192 Ha covering 33% of the total complex area. Additional greenbelt will be developed in the gap areas identified in the existing greenbelt. The estimated project cost is Rs. 910.56 crores. Total capital cost earmarked towards environmental pollution control measures is Rs. 3.25 crores and the recurring cost (operation and maintenance) will be about Rs.0.88 crores per annum. Direct employment will be 10 persons & indirect employments will be 50 persons during operation phase of the refinery. GAIL proposes to allocate Rs 4.77 crores towards Corporate Environment Responsibility (CER).

There are no National Parks, Wildlife Sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from the project site. River Sengar is flowing at a distance of 10 Km in South West direction from the proposed project.

Ambient air quality monitoring was carried out at 10 locations during October to December 2019 and the baseline data indicates the ranges of concentrations as PM10 (70-85 µg/m³), PM2.5 (32-49 µg/m³), SO₂ (15-26 µg/m³) and NO₂ (20-35 µg/m³) respectively. Air quality modeling was not carried out for the proposed project as there is no additional stacks are envisaged.

Fresh water requirement for proposed project will be 40 m³/hr which is well within the allocation limit of 2040 m³/hr. Approval of water supply from Irrigation Department, Etawah Zone (3058 m³/hr) is already taken.

Effluent of 0.6 m³/hr from the proposed Polypropylene unit will be treated in the existing Effluent Treatment Plant of Petrochemical Complex (ETP capacity 300 m³/hr). The total effluents from the Petrochemical complex after the proposed project will be 214 m³/hr, of which 50 m³/hr will be recycled and 164 m³/hr to be discharged to Sengar river through pipeline.

Power requirement for the proposed project will be 3 MW and sourced from State Grid. No additional DG sets are envisaged for the proposed project.

Existing complex has Natural Gas fired 5 Utility boilers with 3 boilers of capacity 120 TPH each and 2 boilers of capacity 170 TPH each. No boilers are envisaged for the proposed project.

SO_x emission from the proposed project shall be minimal as the complex runs on cleaner fuel i.e. Natural Gas. For emission management in the existing complex, adequate stack height, use of Low NO_x burners in heaters & boilers, continuous stack monitoring, developing structured green belt etc. shall be carried out.

Hazardous solid waste like molecular sieves will be disposed off following the mode of disposal prescribed under the Hazardous Waste Authorization from the Uttar Pradesh Pollution Control Board.

There is no litigation pending against the proposal.

Subsequent to Committees deliberations and discussions in the meeting, as submitted and presented before the Committee, the project proponent has submitted following additional information:

- 1) **Solar Power** : GAIL, Pata has installed India's 2nd largest rooftop Solar Power plant of 5.76 MW at a Capital cost of Rs 27.7 crores. The rooftop Solar Power plant covers the roof of 2 Warehouses admeasuring 500m x 65 m each. The plant will reduce 6,000 TPA of CO₂ emissions, and contribute in helping India achieve its commitment under the COP21 Agreement. Moreover, GAIL is setting-up additional 2.74 MW of Solar Power plant inside the existing complex at a cost of Rs.13 crores. This rooftop Solar Power plant will cover the roof of 25 Buildings in Plant and Township.
- 2) **Fresh water** : Only 40 m³/hr fresh water is envisaged as the additional requirement for the proposed project. This will be met from the already allocated (2040 m³/hr) fresh water for the petrochemical complex. Hence no additional fresh water is required for the proposed project.

- 3) **Liquid Effluent** : The Effluent generated from the proposed project is only 0.6 m³/hr and it will be treated in the existing Effluent Treatment Plant. **The design capacity of effluent treatment plant is 300m³/hr.** It may be noted that the Petrochemical complex presently generates 214 m³/hr of effluent.
- 4) **Zero Liquid Discharge** : GAIL is already carrying out an assessment study by NEERI for Optimization of fresh water consumption. The study aims to maximize recycle & reuse of waste water generated in the complex with an option of zero liquid discharge. The recommendations from the study will be implemented in the Petrochemical complex.
- 5) **Rain water harvesting** : Rain water harvesting measures have been implemented in all the major buildings of GAIL Pata (Total 22 nos. buildings covering area of around 34,000 m²). The Technology adopted is 'Percolation Pit with Bore Method'. The Rain water is collected through water spouts coming from terraces and is routed to collection/ absorption pits. Catchment area of 15 Ha is proposed in the Complex for Rain water harvesting.
- 6) **SOx emissions** : GAIL, Pata uses a cleanest fuel viz. lean natural gas as its feedstock. This is virtually Sulphur and Particulates free. Hence the SO₂ emissions due to the proposed project shall be negligible. The total SO_x emission from the Petrochemical complex shall be within the MoEFCC prescribed limit.
- 7) **Employment** : The proposed project will generate additional employment opportunities both Direct and Indirect. GAIL will recruit people with the required qualification and skill set as per the Central and State Government regulations. Most of the indirect employment is expected to be met from the local populace itself.
- 8) **Green Belt** : GAIL ,Pata has already planted around 1 lakh trees inside the complex. Further, an additional 01 lakh trees will be planted in the Petrochemical complex and its vicinity .
- 9) **Modernization of Schools** : GAIL will modernize Government schools in the vicinity of the Plant by providing Computers, Smart Boards and other teaching aids. GAIL will also provide drinking water purifiers in these schools.

Accordingly, the Corporate Environment Responsibility (CER) for the proposed project is revised as follows (Rs. In Lakhs):

No.	CER Activity	1 st Year	2 nd Year	3 rd Year
1	Drinking water supply and Sanitation	35	28	30
2	Community Health support & welfare	24	31	29
3	Modernization of nearby schools	75	75	75
4	Skill Development in nearby villages	25	25	25
	Total	159	159	159

GAIL has submitted the reply to the observations made by Regional Office, MoEFCC, Lucknow on 13/05/2020. GAIL is already taking several Health initiatives in the Region as part of its CSR activities.

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 and incremental GLC due to the proposed project within NAAQ standards. The Committee has also deliberated on the CER plan and found to be addressing the issues in the study area. Certified report on compliance of existing EC conditions also found to be satisfactory. The Committee also found the additional studies and information submitted and presented by the project proponent to be satisfactory.

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). 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.
- (i). As committed by the Project proponent, 75 % of the effluent discharged to the river shall be recovered and reused to reduce the fresh water requirement. The total effluent proposed to discharge to the river is 164 cum/hr, out of which 75 % shall be treated through ETP/RO system and reused in the plant/process. Only the remaining 25 % the effluent shall be sent for river discharge after meeting the prescribe standards.
- (ii). Total fresh water requirement shall not exceed 2040 cum/hr, proposed to be met from water supply from the Irrigation Department, Etawah Zone. 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.
- (iii). 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.
- (iv). Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.
- (v). 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.
- (vi). 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.
- (vii). Regular VOC monitoring shall be done at vulnerable points.
- (viii). 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.
- (ix). Oil catchers/oil traps shall be provided at all possible locations in rain/ storm water drainage system inside the factory premises.
- (x). 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.
- (xi). 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.

- (xii). As proposed, Rs 4.77 crores shall be allocated for Corporate Environment Responsibility (CER) shall be utilized for meeting the commitment of the socio-economic issues and as per the proposed action plan. The CER plan shall be completed within three year of expansion of the project.
- (xiii). 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.
- (xiv). 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.
- (xv). The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Firefighting system shall be as per the norms.
- (xvi). 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.
- (xvii). 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.
- (xviii). 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.
- (xix). Recommendations of mitigation measures from possible accident shall be implemented based on Risk Assessment studies conducted for worst case scenarios using latest techniques.
- (xx). The project proponent shall develop R& D facilities to develop their own technologies for propylene and polypropylene processing.

Agenda No. 23.2

Expansion & Change in Product Mix by way of Debottlenecking & Modernization by M/s Reliance Industries Limited at Raigad, Maharashtra - Consideration of Environment Clearance

[IA/MH/IND2/75750/2018, IA-J-11011/224/2018-IA-II(I)]

The Project Proponent and the accredited Consultant M/s ERM India Private Limited, made a detailed presentation on the salient features of the project and informed that:

The proposal is for environmental clearance to the project for Change in Product Mix by way of Debottlenecking & Modernization of PTA Unit at Patalganga Manufacturing Division, District Raigad, Maharashtra by M/s Reliance Industries Limited.

The project/activity is covered under category B of items 5(e) "Petrochemical products and petrochemical based processing" of the Schedule to the Environment Impact Assessment (EIA) Notification 2006. Due to location of the project site within 5 km from the Karnala Bird Sanctuary and Matheran ESA, the project requires appraisal at Central Level by Expert Appraisal Committee (EAC).

The standard ToR has been issued by Ministry vide letter No.J -11011/224/2018-IA-II(I); dated 26th February 2019.

The details of products and capacity are as under:

Sl. No.	Product Details	Existing (MTPA)	Proposed Addition (MTPA)	Total after proposed Project (MTPA)
1	Purified Terephthalic Acid (PTA)	3,00,000	0	3,00,000 (Either PTA or PIA)
2	Pure Isophthalic Acid (PIA)	0	3,00,000	
3	Para-Xylene (PX)	2,50,080	0	2,50,080 (Either PX or MX or Reformate)
4	Meta-xylene (MX)	0	2,50,080	
5	Reformate	0	2,50,080	
6	Pentane (n and iso)	12,504	0	12,504
7	IG Benzene, Remax-1, Renine	6,06,108	0	6,06,108
8	Liquefied Petroleum Gas (Sr Grade)	27,000	0	27,000
9	Power (MW)	48	42	90
10	Steam (MT/hr.)	250	225	475

The PTA plant was setup in the year 1985 with NOC & Consent from MPCB; before the EIA Notification was issued in 1994 and hence EC was not granted so far by the ministry.

The proposed project is coming up with in the existing plant area of 297000 m² and no additional land will be used for the proposed project. Industry has already developed greenbelt in an area of 33 % (~50200 m² in the township and > ~ 50000 m² in the township) out of total area of the project. The estimated project cost is Rs 520 crores. Total capital cost earmarked towards environmental pollution control measures is Rs ~ 52 crores and the Recurring cost (operation and maintenance) will be about Rs ~ 4.10 crores per annum.

There will be temporary employment of 1000 persons during construction phase and no additional manpower shall be required during the operational phase of the project. Industry

proposes to allocate Rs 5.76 crores @ of 2.5 % towards Corporate Environment Responsibility.

The Karnala Bird Sanctuary and Matheran ESA is located within 10 km distance from the project site and the Patalganga river flows at a distance of 0.1 km in North-East direction.

Ambient air quality monitoring was carried out at 10 locations during December 2018 to March 2019 and the baseline data indicates the ranges of concentrations as: PM₁₀ (42.5 – 96.4 µg/m³), PM_{2.5} (20.2 – 48.9 µg/m³), SO₂ (< 6.0 – 11.6 µg/m³) and NO₂ (7.6 – 48.7 µg/m³). AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 0.12 µg/m³, 1.26 µg/m³ and 6.29 µg/m³ with respect to PM₁₀, SO_x and NO_x. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

There is no additional water requirement for the project and existing water quantity of 16,960 m³/day will suffice. The water is supplied by MIDC. Effluent generation from the existing plant is 5178.3 m³/day. It is treated in the inhouse ETP and discharged to CETP. There will be no additional effluent generation from the proposed project.

Power generation after expansion will be 112500 KVA including the existing 60,000 KVA. There shall be no increase in power consumption after the project. The existing unit has no DG sets. No additional boilers are required to be established in this project.

A. Expected Pollutants and their quantification

Stack attached to	Emission Rate (g/s)			
	PM	SO ₂	NO ₂	CO
Off-gas expander stack (new)	0.04	0.45	2.25	0.90
HRSG 1(incremental)	0.11	1.08	5.40	2.16
HRSG 2 (incremental)	0.11	1.08	5.40	2.16

B. Management of emissions

(a) Establishing Regenerative Thermal Oxidizer for off-gas treatment

(b) Adequate stack height is as per CPCB norms for dispersion of pollutants

(c) Optimization of combustion by Installation of oxygen monitors and minimizing thermal NO_x generation.

(d) Provision of Continuous Emission Monitoring System (CEMS)

Details of Solid waste / Hazardous waste generation and its management

There will be no increase in the quantity of hazardous waste and other solid waste generation, due to proposed project. The existing facility has membership with M/s Mumbai Waste Management Limited and disposal is done in compliance with the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.

Public Hearing is not applicable as the project is in a notified industrial estate and hence not conducted. It was informed that there is no litigation pending against the proposal.

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 and incremental GLC due to the proposed project within NAAQ standards. The Committee has also deliberated on the CER plan and found to be addressing the issues in the study area. The Committee noted that the unit is in operation before the EIA Notification, 1994 and hence EC was not applicable to the existing project.

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). The environmental clearance is subject to obtaining prior clearance from the wildlife angle, including clearance from the Standing Committee of the National Board for Wildlife, as applicable, as per the Ministry's OM dated 8th August, 2019. Grant of environmental clearance does not necessarily imply that Wildlife Clearance shall be granted to the project and that their proposal for Wildlife Clearance will be considered by the respective authorities on its merit and decision taken.

- (ii). The project proponent shall prepare a site specific conservation plan and wildlife management plan in case of the presence of Schedule-1 species in the study area, as applicable to the project, and submit to Chief Wildlife Warden for approval. The recommendations shall be implemented in consultation with the State Forest/Wildlife Department in a time bound manner.
- (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). As committed by the Project proponent, 75 % of the effluent discharged to the CETP shall be recovered and reused to reduce the fresh water requirement. The total effluent proposed to discharge to the CETP is 5178.3 cum/day, out of which 75 % shall be treated through ETP/RO system and reused in the plant/process. Only the remaining 25 % the effluent shall be sent for CETP discharge after meeting the prescribe standards.
 - (i). Total fresh water requirement shall not exceed 16960 cum/day, proposed to be met from MIDC water supply. 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.
 - (ii). 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.
 - (iii). Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.
 - (iv). 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.
 - (v). 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.
 - (vi). Regular VOC monitoring shall be done at vulnerable points.
 - (vii). 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.
 - (viii). Oil catchers/oil traps shall be provided at all possible locations in rain/ storm water drainage system inside the factory premises.
 - (ix). The company shall undertake waste minimization measures as below:
 - (g) Metering and control of quantities of active ingredients to minimize waste.
 - (h) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes.
 - (i) Use of automated filling to minimize spillage.
 - (j) Use of Close Feed system into batch reactors.
 - (k) Venting equipment through vapour recovery system.
 - (l) Use of high pressure hoses for equipment cleaning etc. to reduce wastewater generation.

- (x). 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.
- (xi). As proposed, Rs 5.76 crores shall be allocated for Corporate Environment Responsibility (CER) shall be utilized for meeting the commitment of the social-economic issues and as per the proposed action plan. The CER plan shall be completed within three year of the proposed project.
- (xii). 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 centre/provide skill development training to village people.
- (xiii). 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.
- (xiv). The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Firefighting system shall be as per the norms.
- (xv). 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.
- (xvi). 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.
- (xvii). 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.
- (xviii). Recommendations of mitigation measures from possible accident shall be implemented based on advanced risk Assessment studies conducted for worst case scenarios using latest techniques.
- (xix). The project proponent shall develop atleast 1 MW green energy/solar energy.

Agenda No.23.3

Development Drilling of 406 wells in Mehsana, Gandhinagar, Ahmedabad and Patan in Gujarat by M/s ONGC - Consideration of Environment Clearance regarding.

[IA/GJ/IND2/151758/2011, J-11011/503/2011-IA II(I)]

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

During deliberations, the EAC noted the following:

The Project Proponent has obtained TOR for 406 development wells vide letter No.-11011/352/2016-IA-II(I) dated 15th March 2017. Off late, 15 wells of Patan district which were proposed to be drilled has been postponed because proposal is under reconsideration. Therefore, public hearing of Patan district was not carried out. Accordingly, it was decided to drop 15 wells located in Patan district from total 406 wells and it is proposed to grant EC for 391 wells located in three districts i.e. Mehsana, Gandhinagar, and Ahmedabad.

The project/activity is covered under category A of item 1(b) 'Offshore and onshore oil and gas development & production' of schedule to the Environment Impact Assessment (EIA) Notification, 2006, and requires appraisal at central level by sectoral Expert Appraisal Committee in the Ministry.

The proposal is for Environmental Clearance to the project Development drilling of 391 wells of Mehsana Asset at Mehsana, Ahmedabad and Gandhinagar by M/s. ONGC Ltd. The ToR has been issued by Ministry vide letter No.-11011/352/2016-IA-II(I) dated 15th March, 2017.

Public Hearing for the proposed project has been conducted by the Gujarat Pollution Control Board on 17th January, 2020 for Mehsana district chaired by the representative of District Magistrate & Collector Mehsana, 3rd March, 2020 for Gandhinagar district chaired by Additional District Magistrate Gandhinagar and 8th March, 2020 for Ahmedabad district chaired by Additional District Magistrate Ahmedabad. The main issues raised during the public hearing are related to Land compensation, employment, CSR activities. No Litigation is pending against the proposal as informed by PP.

Regional Office of MoEFCC, Bhopal issued Certified Compliance Report on 01/05/2019 for earlier obtained EC for development drilling of 350 wells in 4 districts i.e. Mehsana, Gandhinagar, Patan and Ahmedabad.

Ministry had issued EC earlier vide letter no. F.No. J-11011/503/2011 –IA II(I) dated 26.11.2014 to the existing project Drilling of 350 development wells in Mehsana Asset at district Mehsana, Gandhinagar, Ahmedabad and Patan in favour of M/s. ONGC Ltd. Mehsana Asset.

Existing land area is about 12100 m². The estimated project cost is Rs 2314.06 Crores. Total capital cost earmarked towards environmental pollution control measures is Rs 277.48 Crores and the Recurring cost (operation and maintenance) will be about Rs 49.77 Crores per annum. Total Employment will be 20-25 Persons per shift of 8 hrs, 3 shifts a day after expansion. Industry proposes to allocate Rs 7 Crores per annum towards Corporate Social Responsibility.

There are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wild life Corridors etc. within 10 km distance from the project site.

Total fresh water requirement is 25 m³/day. It will be met from nearest ONGC installation. Wastewater will be comprised of drilling wastewater and domestic wastewater. About 5 m³/day of wastewater is expected. All wastewater streams except sewage will be directed to a 1.5 mm HDPE lined pit. Wastewater collected in the pit will be clarified and left for solar drying.

Ambient air quality monitoring was carried out at 30 locations during 27th April, 2018 to 27th July, 2018 and the baseline data indicates the ranges of concentrations as: PM₁₀ (40.9 – 80.4 µg/m³), PM_{2.5} (18.6 – 45.1 µg/m³), SO₂ (5.1 – 14.1 µg/m³) and NO₂ (5.7 – 31.6 µg/m³). AAQ modeling study for point source emissions indicates that the incremental GLCs after the proposed project would be 3.332 µg/m³, 5.554 µg/m³ and 31.941 µg/m³ with respect to PM, SO_x and NO_x. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

Existing unit has 2 DG sets of 1250 kVA capacity, additionally 1 DG sets are used as standby during power failure. Stack height will be about 6.8 m (including height of trailer from ground) will be provided as per CPCB norms to the proposed DG sets.

Details of Process emissions generation and its management:

The exhaust of the DG sets will be at sufficient height to allow dispersions of the pollutants and periodical maintenance of DG sets so that emissions will be under limits. Low sulphur diesel (Sulphur: 120 ppm) to reduce emissions of pollutant SO₂. Most of the equipment, machinery and vehicles have inbuilt pollution control devices. The storage and handling of top soils and materials will be carefully managed to minimize the windblown material and dust.

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

Solid waste	Drill cuttings & drilling mud	<ul style="list-style-type: none"> ✓ Collected in lined pits, stabilized and buried and restored with native soil ✓ Drilling mud to be recycled
	Used oil	<ul style="list-style-type: none"> ✓ Disposed to authorised recyclers
	Miscellaneous Hazardous waste	<ul style="list-style-type: none"> ✓ Collection of wastes in storage area and disposed to waste recyclers

The incremental GLC values were derived using AERMOD dispersion model wherein inputs w.r.t pollutants emission rate; exit gas velocity & temperature; stack height & diameter, meteorological conditions etc. have been provided to the model.

The emission rate for all the pollutants in g/sec have been calculated considering maximum permissible limits for emissions of pollutants from DG sets as prescribed by CPCB. Therefore, in the instant case maximum emission levels have been considered in the input scenario.

The reported values are maximum GLC at one particular instant of time during the entire the model run time. Avg. Incremental values during the entire model run time are given below:

a) Rupal Station

SO ₂	CO	NO _x	PM
1.155	11.422	6.641	0.693

b) Ahmedabad Station

SO ₂	CO	NO _x	PM
0.890	9.155	5.118	0.534

The avg. Incremental values of GLC are significantly lower as compared to maximum GLC values which are reported at one particular instant of time during the entire model run time.

Presently available liquid handling capacity of Mehsana Asset is 36500 m³/day and existing production is 31000 m³/day. After drilling of 391 wells additional liquid will be accommodated accordingly with the existing liquid handling facilities. There would be no enhancement/ increment in the liquid handling capacity.

Mehsana Asset carries out Societal risk assessment and in line with that it has carried out following activities in operational areas: -

- Ration kit distribution to 5600 families in operational area villages (40 villages) @ 30 lakhs. (Kit composition - 3 kg rice, 3 kg wheat flour, 1 kg. Chana, 1 kg dal, 1 litre refined oil)
- 18000 meals distributed to needy beneficiaries in Mehsana city during lockdown (April-May2020) @ 5 lakhs.

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 EAC noted that the environmental clearance granted to the existing project is for drilling of 350 wells, whereas the proposed project envisaged development of 406 wells. It was also informed that 15 wells of Patan district which were proposed to be drilled has been dropped and hence public hearing of Patan district was also not carried out. Now the PP proposed to drill only 391 wells. It was desired that a clarification from the PP shall be obtained regarding deviation in existing EC granted wells (350) and proposed development (391) wells, and to get details on remaining 41 wells.

The Committee has also noted that the public hearing conducted on 17th January, 2020 for Mehsana district was reported to be chaired by the representative of District Magistrate & Collector, Mehsana. The Committee has been informed that Officer above the rank of ADM only shall preside over the public hearing as per the EIA Notification, 2006. The Committee suggested that the Ministry may get further clarification from SPCB and PP in this regard.

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 and incremental GLC due to the proposed project within NAAQ standards. The Committee has also deliberated on the CER plan and found to be addressing the issues in the study area and public hearing issues.

Additional information submitted by the project proponent found to be satisfactory and addressing the concerns of the Committee. 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 (EC).

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). 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). As proposed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged to any surface water body, sea and/or on land. Mobile ETP along with RO plant shall be installed to treat the waste water.
- (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 cum/day/well. 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 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). All the commitments made to the public during public hearing/consultation shall be satisfactorily implemented. As committed Rs. 8.77 crore shall be allocated for Corporate Environment Responsibility (CER) shall be utilized for meeting the commitment of the issues of public hearing. The CER plan shall be completed before commissioning or expansion project.
- (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 and report & shall 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. 23.4

Onshore Oil and Gas Development Drilling and Production Involving Onshore drilling of 179 wells, production facilities and laying of assorted oil & gas flowlines/delivery lines by M/s Oil India Limited in District: Tinsukia, Assam - Consideration of Environment Clearance

[IA/AS/IND2/165606/2007, J-11011/375/2016-IA II (I)]

The Project Proponent and the accredited Consultant M/s ERM India Pvt. Ltd., made a detailed presentation on the salient features of the project and informed that:

The proposal is for environmental clearance to the project for Onshore Oil and Gas Development Drilling and Production Involving Onshore drilling of 179 wells, production facilities and laying of assorted oil & gas flowlines/delivery lines in District Tinsukia (Assam) at Tinsukia District, Assam by M/s Oil India Ltd.

The project/activity is covered under Category A of items 1(b) "Offshore and onshore oil and gas development & production" of the Schedule to the Environment Impact Assessment (EIA) Notification 2006 and requires appraisal at Central Level by Expert Appraisal Committee (EAC).

The project proposal was considered by the Expert Appraisal Committee (Industry-2) in its 18th meeting held during 23-25 January 2017 and recommended Terms of References (ToRs) for the Project. The ToR has been issued by Ministry vide letter No. J-11011/375/2016-IA II (I); dated 8th September, 2017.

Ministry had issued EC earlier vide letter no. J-11011/1255/2007 - IA II (I); dated 1st November, 2011 to the existing project Drilling of Development Well (26 Nos.) and Exploratory Well (15 Nos.) at N. Hapjan-Tinsukia-Dhola Area in District Tinsukia Assam by M/s Oil India Limited in favour of M/s Oil India Ltd.

Certified compliance by Shillong Regional Office vide letter No. RO-E/E/IA/AS/MI/59/169-71. RO, MoEFCC, Shillong planned during 9-12 December 2019, but was cancelled due to Citizenship Amendment Act (CAA) protests and later due to COVID-19 pandemic. Undertaking of self-certified compliance of EC conditions submitted to MoEFCC.

Dibru Saikhowa National Park and Bherjan Segment of Bherjan Borjan Podumoni Wildlife Sanctuary within 10 km of the well locations. Brahmaputra River is flowing at a distance of 0.9 km in north-west direction.

Public Hearing for the proposed project has been conducted by the State Pollution Control Board on 12th March, 2020. The main issues raised during the public hearing are related to environmental pollution, developmental activities, employment,

infrastructure development for schools, public health.

The Committee during deliberations noted that the project proponent has uploaded the certified compliance of the existing status of the EC conditions issued by the Ministry's Regional Office vide letter dated 5th July, 2016. The certified report has very serious observations against the ongoing projects and reported serious non-compliance by the PP. It was observed by the regional office that the PP has started development and production of the wells without obtaining prior environmental clearance. The Committee after detailed deliberations desired for following additional information/inputs in respect of the following:

- (i). Action taken report on non-complied points to be forwarded by the Ministry's Regional Office.
- (ii) Justification, if any, for start of development/production of wells without prior environmental clearance.
- (iii) Details of existing NBWL permission and status of NBWL clearance for the proposed project.
- (iv) Public hearing issues, response and detailed action plan

The proposal was therefor DEFERRED for the needful.

Reconsideration of Environmental Clearance

Agenda No.23.5

Addition of 20 MW Turbine & Stand by Flare System with Carbon Black Manufacturing Facility M/s Balkrishna Industries Limited located at Block Survey No. 470 & associated, Village-Paddhar, Taluka-Bhuj, District-Kutch, Gujarat - Consideration of Environment Clearance regarding.

[IA/GJ/IND2/168987/2019, J-11011/162/2017-IA II(I)]

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

During deliberations, the EAC noted the following:

The proposal is for environmental clearance to the project for Addition of 20 MW Turbine & Stand by Flare System with Carbon Black Manufacturing Facility M/s Balkrishna Industries Limited located at Block Survey No. 470 & associated, Village-Paddhar, Taluka-Bhuj, District-Kutch, Gujarat.

All Petrochemical based processing (processes other than cracking & reformation and not covered under the complexes) are listed at S.N. 5 (e) of Schedule of Environment Impact Assessment (EIA) Notification under category 'A' as the proposed project is located outside the notified industrial area/estate and are appraised at Central Level by Expert Appraisal Committee (EAC).

The Standard Terms of References (TORs) had been granted to the project vide letter no. IA-J-11011/162/2017-IA-II(I) dated 20.12.2019. The project proposal was considered by the Expert Appraisal Committee (Industry-2) in its 16th meeting held during 22.01.2020 and recommended amendment in terms of references (ToRs) along with the request of exemption from Public Hearing under para 7(ii) of the EIA Notification, 2006 for the Project. The Amended ToR has been issued by Ministry vide letter F.No. J-11011/162/2017-IA-II(I) dated 19.03.2020.

The details of products and capacity as under:

S.No.	Particulars	Unit	Details			Impact
			Existing Operational	Proposed	Total after expansion	
1	Tyre & Tube (Non-EC Product)	TPM	10000	5000	15000	Increase
2	CPP	MW	20	20	40	Expansion
3	Carbon Black [Product covered under 5(e) of EIA notification 2006]	TPM	11500	0	11500	No change

S No	Particular	Activity	Amount allocated
1.	Total Project Cost (including Tire & Tube Plant, Carbon Plant, Power Plant & common infrastructure)	-	Rs 3823 Crore (including cost of Rs 40 crore for land and common infrastructures)
2.	Cost for Expansion of CPP (only for turbine, flare stack and associated auxiliary units)	-	Rs 25 Crore
2.	EMP Capital Cost including cost of EMP in tyre and CPP expansion.	Air Pollution Control System	Rs 23.95 Crore
		Water Pollution Control system	Rs 13.99 Crore
		Solid/Hazardous Waste management	Rs 10.69 Crore
		Landscaping / plantation	Rs 12.23 Crore
		Miscellaneous	Rs 8.43 Crore
		Sub Total Capital Cost	Rs. 69.29 crores
3.	EMP Recurring Cost for tyre plant, CPP unit and Carbon black plant	Air Management	Rs 37 Lacs/year
		Water Management	Rs 60 Lacs/year
		Solid/Hazardous Waste management	Rs 20 Lacs/year
		Landscaping / plantation	Rs 25 Lacs/year
		Environment monitoring	Rs 8 Lacs/year
		Misc	Rs 2 Lacs/year
		Sub Total Recurring Cost	Rs 152 Lacs/year

4.	CER Cost	Infrastructure Development	Rs 10 Lacs
		Educational Activities	Rs 9 Lacs
		Medical Facilities	Rs 6 Lacs
		Sub Total CER Cost	Rs 25 Lacs
5.	P.H. Commitment	N/A	-
6.	Green Belt Development	Planting of 1000 trees per acres or 2500 trees/ha	Rs 12 Cr 23 lakhs
7.	Conservation Plan Capital Cost	Improvement of water availability- Construction maximum number of water sources such as earthen tanks, and small ponds and maintain a number of water sources every year.	Rs 2.8 Lacs
		Food Availability and improvement of Habitat-Plantation of edible fruit bearing trees (In consultation with the Forest Department) for herbivorous animals which will lead to the improvement of habitat. Also provision of availability of food grains near the water bodies will be provided.	Rs 2.9 Lacs
		Awareness Program for locals to reduce minimise their dependence on forest. like fodder, wood for fuel etc, aware youth and students for eliminating poaching which consequently improve the status of wildlife also Campaign against buying live animals or materials made of animal horns, teeth, carapace and corals as gifts.	Rs 0.8 Lacs
		In consultation with the Forest department or Local NGO specilled in Herpetology-Infrastructure maintenance for species like Indian Python and Indian Monitor Lizard for captive breeding shall be done.	Rs 2.5 Lacs

		Fencing around the Project Boundary so that no wild animals wander into the project site and cause any mishaps. Also, ensure a strict watch on the fence so that no wild animal is able to enter the Plant area.	Rs 1 Lacs
		Sub Total Capital Cost	Rs 10 Lacs
8.	Budget for Occupational Health & Safety	Workers will be subjected to primary health check-up before they are employed to ascertain their health conditions. Thereafter, Regular Medical check-up & First Aid facility will be organized for workers to evaluate the adverse impact if any on these persons due to the proposed activity. Occupational health surveillance programmes shall be done yearly. A Medical Officer and full fledged medical staff are recruited.	Rs 32 lacs
		Infrastructure facilities such as sanitation, fuel, restroom, canteen etc. shall be provided to the labour force during construction as well as to the casual workers including truck drivers during the operation phase.	Rs 4 Lacs
		Workers will be provided with masks, gloves, goggles & ear muffs will be provided.	Rs 1 Lacs
		Covered transportation of vehicles.	Rs 1 Las
		Insurance for worker	Rs 2 Lacs
		Subtotal	Rs 40 Lacs
9.	Budget for Public Health And Safety	Health Check-up camps shall be organized. Support to the primary Health centre. Public addressing system	Rs 02 Lacs
		Subtotal	Rs 02 Lacs

The Ministry had issued Environmental Clearance earlier vide F. No. J-11011/162/2017-IA II(I) dated 8.01.2018 and amended Environmental Clearance vide letter no. J-11011/162/2017-IA II(I) dated 20.05.2019 for the operational carbon black manufacturing facility to the existing project in favour of M/s Balkrishna Industries Limited. The Certified compliance report Obtained from MoEF&CC RO Bhopal vide letter no F-95/2018 (ENV) /117 dated 05-02-2020. The Action taken report submitted by the project proponent on 5th February, 2020. The Committee deliberated the compliance status of earlier EC submitted by PP and found in order.

Details of Process emissions generation and its management are given below: -

Process emissions generation and its management [EXISTING AND PROPOSED]: -

1. Existing and proposed stack detail-CPP

Stacks	Attached to unit	Stack Height Provided	Stack Height Calculated	Stack Dia	Temp	Velocity	Base area	Flow rate		
		m	m					m	K	m/sec
Existing										
Boiler -1 (66 TPH)	CPP Coal Based Boilers) (One Operational + One Stand By	84	60	1.6	420	20	2.0096	40.192	144691.2	102261.85
Boiler -6 (95 TPH)	CPP Based on Off-Gas from Carbon Black Plant	105	59.18	2.4	493	18	4.5216	81.389	292999.68	177107.31
<p>Note: The height of the boiler as per EPA standard and actual emission is 60 m and 84 m as per the maximum load calculation. The height of the boiler as per EPA standard and actual emission is 59.18 m and 105 m as per the maximum load calculation</p>										
D.G Set - 2 (250 kVA)	Standby -CPP	11	-	0.25	449.85	10	0.049	0.49	1766.25	1170.04

Proposed										
DG Sets 5- 2500 kVA	Standby -For CPP & Carbon Plant	11		0.25	700	10	0.04 9	0.49	1766.25	1170.04
Boiler no 7 (45 TPH) approved under CTE and EC (presently under construction) is to be attached with CPP										

Stacks	Parameter	Standard	Actual emission	Emission load	Operational hours	Emission per tonne of product	APCM
			mg/NM ³	Kg/hr	Hrs	Kg pollutant/tonne CB	
Boiler -1 (66 TPH)	PM (mg/Nm ³)	50	27.15	2.79	24	2.59	ESP
	SO ₂ (mg/Nm ³)	600	340.2	128.85	24	119.86	
	NO _x (mg/Nm ³)	300	74.8	20.36	24	18.94	
Boiler -6 (95 TPH)	PM (mg/Nm ³)	50	61.26	5.36	24	4.98	-
	SO ₂ (mg/Nm ³)	600	159.28	122.16	24	113.64	
	NO _x (mg/Nm ³)	300	42.19	23.26	24	21.63	
D.G Set -2 (250 kVA)	PM (mg/Nm ³)	150	0.11	0.21	2	0.039	Muffler
	NO _x (ppm)	50	1.73	0.28	2	0.052	
DG Sets 5-2500 kVA	PM (mg/Nm ³)	150	-	0.88	2	0.307	Muffler
	SO ₂ (PPM)	100	-	1.35	2	0.471	
	NO _x (PPM)	50	-	0.55	2	0.193	

2. Existing stack details -CBP

Stacks	Attached to unit	Stack Height	Stack Dia	Temp	Velocity	Base area	Flow rate		
		m	m	K	m/sec	(m ²)	m ³ /sec	m ³ /hr	Nm ³ /Hour
CBP-Dryer1/2	Carbon Black Plant	50	1.3	503	10	1.3267	13.267	47759.4	28294.83
Boiler- 8 (2.5 TPH)WHR B	Carbon Black Plant	NA (Waste Heat Recovery Boilers)							
Boiler-9 (2.5	Carbon Black								

TPH)WHR B	Plant	-
Boiler- 10 (2.5 TPH)WHR B	Carbon Black Plant	
Dryer no.3 and Boiler no 11 (2.5 TPH WHRB) and Boiler no 12 (2.5 TPH WHRB) are approved under earlier EC and CTE (presently under construction) are to be attached with CBP		

Stack	Parameter	standard	Actual emission	Emission load	Operational hours	Emission per tonne of product
			mg/NM ³	Kg/hr	Hrs	Kg pollutant/tonne CB
CBP-Dryer1/2	PM (mg/Nm ³)	50	52.5	9.11	20	8.48
	SO ₂ (PPM)	600	47.17	5.9	20	5.49
	NO _x (PPM)	300	17.92	1.61	20	1.5
Boiler-8 (2.5 TPH)WHR B	PM (mg/Nm ³)	150	9.51	--	Waste Heat Recovery Boilers. No fuel required	--
	SO ₂ (PPM)	100	10.08	--		
	NO _x (PPM)	50	7.27	--		
Boiler-9 (2.5 TPH)WHR B	PM (mg/Nm ³)	150	11.36	--	Waste Heat Recovery Boilers. No fuel required	--
	SO ₂ (PPM)	100	10.27	--		
	NO _x (PPM)	50	8.45	--		
Boiler- 10 (2.5 TPH)WHR B	PM (mg/Nm ³)	150	10.67	--	Waste Heat Recovery Boilers.No fuel required	--
	PM (mg/Nm ³)	150	10.67	--		
	SO ₂ (PPM)	100	9.55	--		
	NO _x (PPM)	50	6.62	--		

3. Existing and proposed stack details -Tire and tube plant

Stacks	Attached to unit	Stack Height	Stack Dia	Temp	Velocity	Base area	Flow rate		
							(m ²)	m ³ /sec	m ³ /hr
		M	m	K	m/sec				
Existing									
DG Sets 1-250 kVA	Standby-Tire & Tube Plant	11	0.25	449.85	10	0.049	0.49	1766.25	1170.04
D.G Set -3 (4.2 MW)	Standby-Tire & Tube Plant	11	0.25	339.85	8	0.049	0.392	1413	1053.08
Proposed									
DG Sets 4-2500 kVA	Standby-Tire & Tube Plan	11	0.25	700	10	0.049	0.49	1766.25	1170.04
DG Sets 6-125 kVA	Standby-Tire & Tube Plant	11	0.25	618	10	0.049	0.49	1766.25	1170.04
DG Sets 7-20 kVA	Standby-Tire & Tube Plant	11	0.25	618	10	0.049	0.49	1766.25	1170.04
Earlier approved DG sets of capacity 2000 kVA will not be installed.									

Stack	Parameter	Standard	Actual emission	Emission load	Operational hours	Emission per tonne of product	APCM
			mg/NM ³	Kg/hr	Hrs	Kg pollutant/tonne CB	
DG Sets 1-250 kVA	PM (mg/Nm ³)	150	0.106	0.00012	2	0.00002	Muffler
	NOx(ppm)	50	1.31	0.021	2	0.00394	
D.G Set -3 (4.2 MW)	PM (mg/Nm ³)	150	0.126	0.001	2	0.00025	-
	NOx(ppm)	50	2.38	0.03	2	0.00569	
DG Sets 4-2500 kVA	PM (mg/Nm ³)	150	-	0.88	2	0.307	Muffler
	SO ₂ (PPM)	100	-	1.35	2	0.471	
	NOx (PPM)	50	-	0.55	2	0.193	
DG Sets 6-	PM (mg/Nm ³)	150	-	0.18	2	0.061	Muffler
	SO ₂ (PPM)	100	-	0.06	2	0.023	

125 kVA	NOx (PPM)	50	-	0.31	2	0.106	
DG Sets 7-20 kVA	PM (mg/Nm3)	150	-	0.13	2	0.045	Muffler
	SO2 (PPM)	100	-	0.11	2	0.038	
	NOx (PPM)	50	-	0.3	2	0.104	
Earlier approved DG sets of capacity 2000 kVA will not be installed.							

4. Stack details-Small process boilers

Stacks	Attached to unit	Stack height		Temp	Velocity	Base area	Flow rate		
		Provided (m)	Calculated (m)				K	m/sec	(m2)
Boiler -3 and 4 (20 TPH)	Small Process Boiler (Stand - By)	40	21	438	20	1.1304	22.608	81388.8	55374.12
Boiler -5 (2.8 TPH)	Small Process Boiler (Stand - By)	30	9.8	368	3.5	0.4416	1.545	5563.68	4505.38

Note:

The height of the boiler as per EPA standard and actual emission is 21 m and 40 m as per the maximum load calculation
The height of the boiler as per EPA standard and actual emission is 9.8 m and 30 m as per the maximum load calculation

Stacks	Parameter	standard	Actual emission	Emission load	Operational hours	Emission per tonne of product	APC M
			mg/NM ³	Kg/hr	Hrs	Kg pollutant/tonne CB	
Boiler -3 and 4 (20 TPH)	PM (mg/Nm3)	50	31.59	1.03	1	0.05	ESP
	SO2 (PPM)	600	29.64	6.31	1	0.29	
	NOx (PPM)	300	18.35	2.81	1	0.13	
Boiler -5 (2.8 TPH)	PM (mg/Nm3)	50	33.27	2.19	1	0.1	-
	SO2 (PPM)	600	21.58	0.31	1	0.01	
	NOx (PPM)	300	15.02	0.16	1	0.01	
Small process boiler of capacity 1.5 TPH approved under EC but not to be installed							

5. Existing Stack details -Process emission from tyre plant

Stacks	Attached to unit	Stack Height	Stack Dia	Temp	Velocity	Base area	Flow rate		
		m	m	K	m/sec	(m ²)	m ³ /sec	m ³ /hr	Nm ³ /Hour
Mixer - 1	Process emission	30	0.75	303	10	0.442	4.416	15896.25	15633.94
Mixer - 2	Process emission	30	0.75	303	10	0.442	4.416	15896.25	15633.94
Mixer - 3	Process emission	30	0.75	303	10	0.442	4.416	15896.25	15633.94
Mixer - 4	Process emission	30	0.75	303	10	0.442	4.416	15896.25	15633.94
Mixer - 5	Process emission	30	0.75	303	10	0.442	4.416	15896.25	15633.94
Mixer - 6	Process emission	30	0.75	303	10	0.442	4.416	15896.25	15633.94
Mixer - 7	Process emission	30	0.75	303	10	0.442	4.416	15896.25	15633.94
Mixer - 8	Process emission	30	0.75	303	10	0.442	4.416	15896.25	15633.94
Mixer - 9	Process emission	30	0.75	303	10	0.442	4.416	15896.25	15633.94
Mixer - 10	Process emission	30	0.75	303	10	0.442	4.416	15896.25	15633.94
Mixer - 11	Process emission	30	0.75	303	10	0.442	4.416	15896.25	15633.94
Mixer - 12	Process emission	30	0.75	303	10	0.442	4.416	15896.25	15633.94
Mixer - 13	Process emission	30	0.75	303	10	0.442	4.416	15896.25	15633.94
Mixer - 14	Process emission	30	0.75	303	10	0.442	4.416	15896.25	15633.94
Mixer - 15	Process emission	30	0.75	303	10	0.442	4.416	15896.25	15633.94
Coal Crusher House	Process emission	30	0.75	303	10	0.442	4.416	15896.25	15633.94
PBC -1	Process emission	30	0.75	303	10	0.442	4.416	15896.25	15633.94
VBC-1	Process emission	30	0.75	303	10	0.442	4.416	15896.25	15633.94
PBC-2	Process emission	30	0.75	303	10	0.442	4.416	15896.25	15633.94
VBC-2	Process emission	30	0.75	303	10	0.442	4.416	15896.25	15633.94

PBC3 & VBC 3 are approved under EC and currently are under construction

Stacks	Parameter	Standard	Actual emission	Emission load	Operational hours	Emission per tonne of product
		mg/Nm ³	mg/NM ³	Kg/hr	Hrs	Kg pollutant/tonne CB
Mixer -1	PM	150	22.9	0.36	24	0.4
Mixer -2	PM	150	31.6	0.49	24	0.55
Mixer -3	PM	150	29.4	0.46	24	0.51
Mixer -4	PM	150	22.9	0.36	24	0.4
Mixer -5	PM	150	24.6	0.38	24	0.43
Mixer -6	PM	150	23.7	0.37	24	0.41
Mixer -7	PM	150	31.5	0.49	24	0.55
Mixer -8	PM	150	32.8	0.51	24	0.57
Mixer -9	PM	150	27.9	0.44	24	0.49
Mixer -10	PM	150	32.4	0.51	24	0.57
Mixer -11	PM	150	38.9	0.61	24	0.68
Mixer -12	PM	150	29.3	0.46	24	0.51
Mixer -13	PM	150	32.3	0.5	24	0.56
Mixer -14	PM	150	31.5	0.49	24	0.55
Mixer -15	PM	150	31.6	0.49	24	0.55
Coal Crusher House	PM	150	45.3	0.71	24	0.79
PBC -1	PM	150	47.6	0.74	24	0.83
VBC-1	PM	150	73.5	1.15	24	1.28
PBC -2	PM	150	55.9	0.87	24	0.98
VBC-2	PM	150	61.3	0.96	24	1.07

Note: Emission norms for Coal Based Power Plant Boilers (66 TPH) (categories TPP installed after 1st January 2003 – up to 31st December 2016) are based on S.O. 3305 (E) dated 7th December 2015.

Emission norms for Boilers of Carbon Black Plant (95 TPH & 45 TPH) and small boilers (20 TPH & 2.8 TPH) are based on G.S.R. 96 (E) dated 29th January 2018.

Cumulative statement of emission load

Emission load	Existing (Kg pollutant/tonne)	Proposed (Kg pollutant/tonne)	Change (% Increase)
CPP and tire & tube plant			
PM emissions load per tonne (flue gas + process emission)	19.19	0.72	3.7
SO ₂ emissions load per tonne	233.5	1	0.43

NOx emissions load per tonne	40.63	0.59	1.47
Carbon black manufacturing unit			
PM emissions load per tonne	8.48	-	No change
SO2 emissions load per tonne	5.49	-	No change
NOx emissions load per tonne	1.5	-	No change
Small process boilers			
PM emissions load per tonne	0.15	-	No change
SO2 emissions load per tonne	0.31	-	No change
NOx emissions load per tonne	0.14	-	No change

Note: The process emissions are calculated at high side considering without bag filter. The APCM as bag filter is proposed.

Summarized Details Of Air Emission Sources (Flue Gas Emission & Comparison Between Approved In Earlier EC & Proposed Expansion)

Sr. No	List Major Equipment for flue gas emission	As per earlier approved EC issued in 2018	Additional proposed for expansion	Remarks
1	CPP Boilers	04 Nos	No Change	No Additional Pollution Load
2	Small process Boilers	03 Nos	No Change	
3	Dryers	03 Nos	No Change	
4	D. G. Sets (2500 KVA & above)	02 Nos	03 Nos	Addition of 4 nos of new D.G.Sets of Capacity 2 X 2500 KVA, 1 X 125 KVA and 1 X 20KVA as stand by, and removal of 1 X 2000 KVA D.G. Set from list mentioned in earlier approved EC.
5	D.G. Sets (250 KVA & below)	02 Nos	04 Nos	
6	Total Nos of D.G. Sets	04 Nos	07 Nos	
7	Flare System	Not Mentioned	01 No	

Note: Flare System is a stand by arrangement for safety of Carbon Black Plant and will be operated only in case of tripping of Off Gas Boilers and D.G sets are only of Stand-by back power, will be operated, if Turbines get tripped and in the same time external Grid Power is not available. So ultimately there is no significant increment in Environmental Load due to proposed expansion.

Details of Solid waste/ Hazardous waste generation and its management is given below: -

Solid Waste Management:

Category	Type of Waste	Treatment method	Total expansion after
Biodegradable	Organic Waste	Food waste and home waste disposed for MSW site	2130 kg/day (777 TPA)
Non-Biodegradable	Recyclable Waste	Sent to authorised recyclers	1420 kg/day(518 TPA)
Total			3550 kg/day (1296 TPA)

Hazardous Waste Management- Process Waste

Type of waste	Hazardous waste Category 2016	Unit	Quantity	Source	Method of Collection	Treatment/ Disposal
ETP Chemical Sludge	Schedule I -35.3	TPA	610	ETP	Bag/Drum	TSDF
MEE Residue	Schedule I -37.3	TPA	900	MEE	Bag/Drum	TSDF
Paint & Waste Residue	Schedule I-21.1	Kg/annum	120	Paint Booth	Bag/Drum	TSDF
Oily Cotton Waste	Schedule I -33.2	TPA	7	All plant	Bag/Drum	TSDF
Spent/Used oil	Schedule I-5.1	TPA	421	All plant	Drum	Sent to registered recycler
Discarded Container & Barrel	Schedule I-33.1	Nos	425	All plant	NA	

Status of Litigation Pending against the proposal, if any- Yes. Detail is given below: -

Case / File No	Appellant	Respondent
M.A No 275 of 2018 APPEAL (Diary) No 29 /2018 APPEAL (Diary) No 32 /2018	1. Bhavnaben Yogesh Bhai 2. Rajesh Naran Khungla 3. Arvind Kana Khungla	1. Union of India through The Secretary, MoEF&CC – New Delhi. 2. Balkrishna Industries Limited. 3. Gujarat Pollution Control Board – Gandhinagar. 4. The State of Gujarat through the Additional Chief Secretary, Forest and Environment Department – Gandhinagar.

Hearing Date	Order of Tribunal (Principal Bench)	Remarks
08-03-2018	Heard M.A No 275 of 2018. Considering the circumstances explained and the fact that the Western Zone Bench is presently not functional, the request for transfer of Appeal No 29 of 2018 from the file of the Western Zonal Bench of Pune to Principal Bench is granted. Learned counsel for the applicant submitted no date has been given by Western Zonal Bench in the said case hence let it be listed on 9th April 2018 and Applicant is directed to intimate the next date of hearing to the Respondents. Registry is directed to secure the file and intimate the next date of hearing to Western Zonal Bench.	Applicant requested for transfer of Appeal from NGT Pune Bench to Principal Bench New Delhi. This request was accepted by NGT Principal Bench.

	M.A.No 275 of 2018 is disposed of with no order as to costs.	
14-03-2018	None appeared. The matter is adjourned to 12th April 2018	Nil
09-04-2018	Await records. Registry is directed to secure by the next date. List it on 09th May ,2018.	Nil
12-04-2018	The Learned counsel appearing for the applicant at whose instant case is transferred from Western Bench, Pune to Principal Bench, New Delhi is absent. The applicant is directed to produce two more sets of copies of the case papers sufficient to the member of the Bench within two weeks from now. List it on 14th May, 2018.	Nil
09-05-2018	Ms. Sadiya Rohma Khan appears for the Appellant and submits there is urgency in the matter needing grant of interim order. However, we notice from the record this case was transferred from Western Zonal Bench on the request made by the appellant expressing urgency but our order directing furnishing two more sets of case papers due to composition of larger number of Hon'ble Members of the Bench has not complied with. There is no interlocutory application seeking interim relief. Be that as it may, we permit the Appellant to take required steps if the Appellant to take required steps if the Appellant so desires. List this matter on 14th may,2018 the date which is granted. if the steps are not taken as mentioned afore-said the case shall stand transferred back to the jurisdictional Western Zonal Bench where the Appeal originally filed. Appellant is directed to furnish copies of the Appeal memo to the Respondents.	NIL
14-05-2018	On behalf of Respondent No.2 time is sought for filing reply. The Learned counsel on behalf of the Ministry of Environment, Forest and Climate Change takes Notice and seeks time for filing reply. Respondent No.3 and 4 are not represented. The applicant counsel submits that they have duly served with the Notice. Post it for the appearance of Respondent No.3 and 4 and for reply of Respondent No.1 and 2 on 31st May, 2018. Later on the Learned Counsel Mr. Dhruv Pal appears for State of Gujarat and State Pollution Control Board submits that he will duly inform the learned counsel on record representing the State of Gujarat. The request on behalf of appellant to permit them for filing of application for grant of interim relief is granted. List this case on 31st May, 2018.	Respondent No 2 i.e Balkrishna Industries Ltd seeks time for filing reply.
31-05-2018	The applicant's counsel is present. On behalf of Respondent No.2 time is sought for filing the reply. So also requested by Respondent No.1,3 and 4. All are granted two weeks' time to file their replies, failing which they will be liable to pay cost. Request on behalf of the learned Counsel appearing for the applicant the case may be transferred back to Western Zonal Bench at Pune which is not opposed by the respondents.	All Respondent sought time for filing reply. All are granted two-week time to file their replies. Applicant requested for transfer of case to Western Zonal Bench Pune, which is permitted by Principal Bench. The case is listed on date

	List it for further proceedings on 24th July,2018 at Pune.	24th July 2018 at NGT Pune Bench, but after 31st May 2018 no hearing schedule.
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The appeals/matter/application that was scheduled on the cause list of 13.08.2020 was adjourned due to unavailability of Hon'ble Judicial member and Expert member. Thereafter, it was rescheduled on 21-09-2020. No further information received regarding the same (as on date)

Existing land area is 1,212,560 m² and proposed expansion will be done on the same land area only. Industry has already developed greenbelt in an area of 33 % i.e., 403727 m² out of the total plot area of the project. The estimated existing project cost is Rs 3823 Crores, out of which the existing project cost of Tyre & Tube Plant is Rs 3,365 Crores, the existing project cost of Carbon Black Plant is Rs 287 Crore, the existing project cost of Power Plant is Rs 131 Crores and the existing cost of developing common facilities is Rs 40 crore. The proposed expansion will be Rs 25 Crores including existing investment of Rs. 25 crores only for turbine, flare stack and associated auxiliary units. Total capital cost earmarked towards environmental pollution control measures is Rs. 69.29 Crores and the Recurring cost (operation and maintenance) will be about Rs. 152 Lacs/year. Total Employment will be 5050 persons as direct & 3000 persons indirect after expansion. Industry proposes to allocate Rs 25 lakhs @ 1% towards Corporate Environment Responsibility.

There are no National Parks, Wildlife Sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from the project site. Sang Nadi is the nearest water body flowing at a distance of 2.88 km in E direction.

Total water requirement as per earlier approved EC was 6600 m³/day, out of which fresh water requirement was 5500 m³/day being met from Gujarat Water Infrastructure Limited. Existing total water requirement (based on at present consumption rate) is 5085 m³/day. The revised / reduced water requirement after implementation of water saving measures including expansion, the total water requirement will be 5941 m³/day, out of which fresh water requirement is 4050 m³/day and will be met from Gujarat Water Infrastructure Limited & Borewell (03 no.). Industrial Effluent (1317 KLD) quantity will be treated through ETPs of combined capacity 1410 KLD followed by RO and MEE. The treated industrial effluent will be recycled for industrial purposes. Domestic Sewage (472 KLD quantity will be treated through STPs of combined capacity 600 KLD and treated sewage will be utilized for domestic, flushing, plantation and greenbelt purposes. The plant will be based on Zero Liquid discharge system. There will be no incremental load on water resources.

Power requirement after expansion will be 33.5 MW including existing 23.5 MW, proposed to be supplied by 20 MW existing TG plus 20 MW proposed TG and Paschim Gujarat Vij Company Ltd) (sanction load is 15 MVA). Existing unit has standby DG sets of 2 x 250 kVA & 4.2 MW capacity, additionally DG sets of capacity 2 x 2500 kVA, 125 kVA, 1 x 20 kVA will be used as standby during power failure. Stack (height 11 m for all DG sets) will be provided as per CPCB norms. Earlier approved DG sets of capacity 2000 kVA will not be installed.

Existing unit has Boilers of capacity 2 x 66 TPH, 1x95 TPH, 1x45 TPH, (Boilers for CPP), 5 x 2.5 TPH (Waste Heat Recovery Boilers) in CBP & 1x2.8 TPH, 2x20 TPH (Other Boilers) installed / approved are small process boilers. The stack height of the 66 TPH boiler as per EPA standard and actual emission is 60 m and 84 m as per the maximum load calculation, the height of the 95 TPH boiler as per EPA standard and actual emission is 59.18 m and 105 m as per the maximum load calculation, the height of the 20 TPH boiler as per EPA standard and actual emission is 21 m and 40 m as per the maximum load calculation and the height of the 2.8 TPH boiler as per EPA standard and actual emission is 9.8 m and 30 m as per the maximum load calculation has already been installed. Stack height of 80 meters for 1x45 TPH boiler is under construction. Electrostatic Precipitators (ESP) is already installed with coal based 2x66 TPH boilers and 2x20 TPH boilers each, for controlling the particulate emissions the statutory limit of PM -50 mg/Nm³, SO_x- 600 mg/Nm³ & NO_x- 300mg/Nm³. Adequate height stacks are installed / to be provided with Off gas based boilers of capacity 95 TPH & 45 TPH, and F.O based boiler of capacity 2.8 TPH respectively for proper dispersion of emission from these boilers within statutory limit of PM -50 mg/Nm³, SO_x-600 mg/Nm³ & NO_x- 300mg/Nm³.

Ambient air quality monitoring was carried out at eight locations during October 2019- December 2019 and the baseline data indicates the ranges of concentrations as: PM₁₀ (57.54- 77.15 µg/m³), PM_{2.5} (25.83 - 34.64 µg/m³), SO₂ (7.39 - 9.91 µg/m³) and NO₂ (17.46 -23.42 µg/m³). AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 0.500 µg/m³, 0.200 µg/m³ and 0.15 µg/m³ with respect to PM₁₀, SO₂ and NO₂. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

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 and incremental GLC due to the proposed project within NAAQ standards. The Committee has also deliberated on the CER plan and found to be addressing the issues in the study area and public hearing issues.

Additional information submitted by the project proponent found to be satisfactory and addressing the concerns of the Committee. 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 (EC).

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 mentioned in the earlier EC dated 8th January, 2018 and amended dated 20th May, 2019 and general terms of conditions at **Annexure**.

Agenda No. 23.6

Expansion of Exploration and Production of Coal Bed Methane gas in Raniganj (South) CBM block by M/s Great Eastern Energy Corporation Limited located at Burdwan, Bankura and Purulia District, West Bengal–Amendment in EC-Reconsideration of Environment Clearance Case.

[IA/WB/IND2/115543/2019, J-11011/352/2010-IA II(I)]

The Project Proponent and the accredited Consultant made a detailed presentation on the salient features of the project and informed that:

The proposal is for amendment in the environmental clearance (EC) granted by the Ministry vide letter dated 24th November, 2011 in favour of M/s Great Eastern Energy Corporation Limited to the project for 'Expansion of Exploration and Production of Coal Bed Methane gas in Raniganj (South) CBM Block located at Burdwan, Bankura and Purulia District (West Bengal).

The project proponent has requested for amendment in the EC for drilling of 20 exploratory wells for shale gas up to a depth of 3000 m, out of total 200 approved wells. The proposal was considered by the Expert Appraisal Committee (Industry-2) in its meetings held during 29-31 July, 2019 and 23-25 October, 2019 in the Ministry.

It has been observed that the production of Coal Bed Methane gas and Shale gas drilling are technologically different activities and as such amendment in the EC may not be possible, as it is having different scope of work. It was decided not to consider the proposal for amendment in the environmental clearance.

The EAC during deliberations has considered the detailed information provided by the MoPNG/DGH on the shale gas drilling and has noted that the Coal Bed Methane gas and Shale gas drilling are technologically different activities. The Committee after detailed deliberations opined that the proposal may be reconsidered after

conducting the **techno-feasibility study**, additional studies which shall include water requirement for process, disposal methodology of the used water and hydrofracturing, infrastructure, depth variation CBM/shale gas and depth of occurrence, methane contamination, mode of occurrence, pressure regime, methodology for production, occupational health plan etc. The project proponent needs to submit EMP report also based on the assessment.

Accordingly, the Committee has deferred the proposal for want of additional study/information.

23.7 Any other items with the permission of the Chair.

Agenda 23.7.1

Onshore Oil and Gas Exploratory Drilling at Loc JRB in Jairampur Area of Changlang District, Arunachal Pradesh of M/s Oil India Ltd.

(IA/AR/IND2/69844/2014 & File No: J-11011/149/2014-IA II (I))

Govt. of India and Arunachal Pradesh awarded Petroleum Exploration License (PEL) to OIL for exploration of oil & gas in Jairampur area of Changlang District. The PEL area for land drilling operations is bounded by the geographical co-ordinates 96°03' - 96°07'E Longitude and 27°19' - 27° 23' N Latitude (Jairampur Area) and extends over 23.25 Sq km. Major town in the area is Jairampur located 5 km from the project site (Fig-1).

The PEL block covers an area of 23.25 Sqkm with validity upto 09.05.2024 and is characterized by rugged mountain ranges, thick reserve forests and difficult logistics. Covered with thick tropical forests under Nampong Forest Division, steep gorges, shallow river channels/reverie sands, rocky/hilly terrain with steep slopes and cliffs and some flat terrain, the areas in and around the forests host a variety of thick undergrowth vegetation. Parts of these forest-covered areas are marshy lands, uneven/rugged topography, frequent water logged and surface/near surface boulder.

The drainage in the study area is of dendritic type and is generally from South to North. Rima & Namchik Rivers are the tributary of Namphuk River. The Namchik River (perennial) combines with Namphuk River (Perennial) and finally discharges into the Buri Dihing located outside the study area at about 12km from the proposed well locations.

Geoscientific work in this part of Belt of Schuppen area was started in 1990 when the PEL grant was received by OIL. This area was also visited by Percy Evans, the doyen of oil industry in India in 1944 for field studies around Namchik river section. The area is comprised of the rocks of Disang, Barail and Tipam groups. Being a part of Schuppen belt, a number of thrusts, anticlines and synclines are present in the area. Subsequently, during 2007-08, a team of geoscientist of Dibrugarh University led by Prof P K Baruah & Dr. R K Sarmah carried out geological mapping in & around the Jairampur Ext. block covering 41 Sq Km.

Seismic survey was initiated and acquired around 26 GLKM of crooked line 2D seismic data during 1987 along the Jagun-Jairampur Stilwell road. A part of it (around 9 GLKM) falls in Jairampur & Jairampur Extn PEL areas. Further, 75 GLKM of 2D seismic data was acquired during 2004-05 & 2005-06 field seasons. Additionally, 5.20 GLKM was acquired 2016-17 in the block.

Exploratory drilling has not been started in this block. However, in the neighboring Jairampur PEL Block, drilling was started in 1998-99 and drilled one location (Loc. JRA) to a depth of 2569.0 m. Commercial hydrocarbon could not be established in this well and abandoned. Kharsang Oilfield lies towards 6 km north of present project site and it has been producing commercially oil since 1976.

Jairampur is a geologically complex and logistically difficult area and bounded by Namdang syncline in the West and Ningrang syncline in the East, Margherita Thrust & Kharsang oil field in the North and Disang & Siyang thrusts in the South. Three stack reservoirs have been expected in each well location at Upper Barail (two layers) and in Lower Tipams. Recoverable reserve of 1.5 MMT oil has been estimated within a structural closure of 5.5 sq km (Max). It is expected that the new exploratory wells will add more oil/gas with further drilling in this area.

Jairampur PEL_area is located in Changlang district of Arunachal Pradesh and lies in the eastern part of the OIL's operational area in Assam. The identified locations are lying in Honkap Reserve Forest and very near to Jairampur town crossing the Namchik River. The national highway (NH 315) runs from Makum to Nampong area towards south of the project site. Nearly 9 km forest road shall be constructed as approach road and to be connected with this national highway to reach the drilling sites. The nearest river is Namchik flowing south-east to north-west and finally falls in Namphuk river near Kharsang. Agriculture is the primary source of the livelihood of the rural population, while in the urban areas; people are absorbed in different occupations.

Forest Clearance:

LOC JRB was identified for drilling in 2007 by Oil India Limited. Accordingly, FC proposal was submitted in 2007. Subsequently, the revised proposal was submitted in 2014. Further the proposal was forwarded to Regional Office, Shillong by PCCF, Office Itanagar on 14.12.2016. The proposal was discussed in REC meeting held on 21.12.2018. Finally, the Nodal Officer (FCA), Govt. of Arunachal Pradesh, conveyed the approval of 1st stage forest clearance vide letter dated 25th October 2019. However, as the proposal was processed offline, it took very long time in uploading the proposal online by the Nodal Officer (FCA) & Regional Office, Shillong. The online uploading of the proposal was completed only in the month of June 2020. Accordingly, OIL deposited the requisite CA & NPV amount. The copy of the 1st stage Forest Clearance letter is now attached with the proposal.

The EAC has deliberated on the proposal. The Committee noted that the FC clearance has been obtained for one locations out of the five (05) locations. Considering delay in getting Stage-I FC, OIL had revised its Minimum Work Program (MWP) for the block and reduced drilling program from five (05) to one (01) well for location JRB involving 17.15 ha forest land. The Committee after detailed deliberations has **recommended for grant of environmental clearance to the one (01) well having FC**, subject to earlier recommended terms and conditions in the 30th EAC meeting held during 2nd & 3rd November, 2017.

ANNEXURE

GENERAL CONDITIONS

- (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.	Shri R. K. Singh	Member
3.	Shri Ashok Agarwal	Member
4.	Shri S.C. Mann	Member
5.	Dr. Y.V. Rami Reddy	Member
6.	Dr. T. K. Joshi	Member
7.	Dr. J. S. Sharma	Member
8.	Dr. Saloni Goel	Member
9.	Dr. T. Indrasena Reddy	Member
10.	Dr. Uma Kapoor, CGWA	Member
11.	Shri Dinabandhu Gouda, CPCB	Member
12.	Sh. Sanjay Bist, IMD	Member
13.	Sh. Ashok Kr Pateshwary, Director, MoEFCC	Member Secretary
MoEFCC		
14.	Dr. Mahendra Phulwaria	Scientist 'C'
15.	Dr. E.P. Nobi	Research Officer
