



STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY, ASSAM
Ministry of Environment, Forest and Climate Change, Government of India
BAMUNIMAIDAM, GUWAHATI-21

No. SEIAA.1895/2021/EC/ **16/16**.
Proposal No: SIA/AS/IND2/229495/2021

Dated: **12/01/2022**

To

M/s. Vedanta Ltd (Division Cairn Oil & Gas)
4th Floor, Vipul Plaza,
Suncity Sector 54,
Gurgaon, Haryana-122002


Sub: Amendment of Environment Clearance for "Onshore Oil & Gas Exploration & Appraisal" in AA-ONHP-2017/1 Hydrocarbon Block falling in Dist-Karbi Anglong & Golaghat, Assam- Inclusion of Early Production.

Dear Sir,


This has reference to your application dated 17/11/2021 seeking Environmental Clearances for the above project under EIA Notification 2006. The proposal has been appraised as per prescribed procedure in the light of provisions under the EIA Notification 2006 and subsequent modification vide S.O. 236(E) dtd 16/01/2020 and on the basis of the mandatory documents enclosed with the application viz. the questionnaire, EIA, EMP in response to the observation of the State Level Expert Appraisal Committee, Assam dtd 20/11/2021.

2. Brief details of the Project:


1	Category/ Item No. (In Schedule):	1(b) B2
2.	Location of Project	(a) Plot/ survey/ Khasra No. G46J/12, G46J/16, G46P/9, G46P/13, Pin:- 785621 (b) Bounded Latitudes (North) From 26 ^o 20'00" to 26 ^o 40'00" (c) Bounded Longitudes (East) From 94 ^o 49'00" to 94 ^o 59'00" (d) Survey of India Topo Sheet No G46J/12, G46J/16, G46P/9, G46P/13 (e) Distant of nearest HFL from the project boundary within the study area 5 (f) Seismic Zone - 5
3.	Project Details	M/s Vedanta Limited (Division Cairns oil & Gas) proposes for Amendment of Environment Clearance to drill 20 Nos of wells for Exploration, Appraisal and Early Production in the AA-ONHP-2017/1 Block(wells name being – (11, 12, 14, 17, 19, 20, 21, 22, 27, 28, 29, 34, 35, 37, 39, 40, 41, 42, 45, 46) The total area are 715 Sq K.M. All activities involve in the exploratory process will be restricted within the block area situated in the Karbi Anglong & Golaghat District, Assam. Early Production is for setting up of 6EPUs for production of 12,000 BOPD crude oil and 2.4 MMSCFD associated natural gas. The exploratory wells in the Geographical location has been given in Table-4 (Coordinates of the proposed wells) are approved for exploration.
4.	Total Project Cost	Rs. 584 Crores.
5.	Water Requirement & source	Water requirement: 87 Cu.M per day of water will be required per well drilling site and 15 Cu.M per day of water per Early Production Location. Sourcing of water requirement: water requirement for all the project activities would be sourced locally through Govt. approved/ authorized sources. No Bore wells shall be drilled for extraction of ground water for this project activities. Water requirement is very minimal & only for short period of time.


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6.	Fuel & Energy	Location		DG Capacity	
		During Drilling			
		Camp Site		2x 350 KVA (one working and one standby)	
		Drilling Site		3X 1000 KVA(two working and one standby) or 2x 1850 KVA (one working and one standby)	
		Liquid Mud Pump (LMP)		3X 250 KVA (2W and 1S)	
		Radio Room		2X 100 KVA (1W and 1S)	
		Diesel fired Heater-Treater or IWBH (Induced Water Bath Heater) with Well Testing/Extended Well Testing Set up		350 KVA	
		During Early Production			
		GEG (Gas Engine Generator)		1 MW	
		D.G. Set (Emergency backup)		1X 500 KVA	
		Flaring for early production			
		Dual fuel (Diesel/ Gas) fired Heater- Treater or IWBH		800 KVA	
		7.	Environment Management Plan	Environment Management Plan (EMP) has been submitted to SEIAA office.	
Cost of Environment Management Plan (EMP) including Greenbelt/ plantation:-					
The tentative budget for implementation of the EMP including environmental monitoring and Green/ plantation would be INR 20.0 Lakh for each of site during drilling activity.					
Sl. No.	Particulars			Approx. budget/ well (INR) in Lakh	
1	Air quality management			3.5	
2	Noise monitoring			0.75	
3	Surface and Ground water Quality			2.0	
4	Soil Quality			0.75	
5.	Waste management			2.5	
6.	Greenbelt/ Plantation			0.5	
Total:				10.0	
7.	EMP cost for waste water treatment				
	Installation of Mobile ETP			Operation and Maintenance of ETP	10.0 Lakhs
	Installation of Mobile STP	Operation and Maintenance of STP			
Total:			20.0 Lakhs		
Environment Management Plan (EMP) has been submitted to SEIAA office.					
<u>During Early Production:</u>					
Cost of Environment Management Plan (EMP) including Greenbelt/ plantation:-					


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		The tentative budget for implementation of the EMP including environmental monitoring and Green/ plantation would be INR 22.0 Lakh/ annum for each Early Production Location.			
		Sl. No.	Particulars	Approx. budget/ well (INR) in Lakh	
		1	Air quality management	10.0	
		2	Noise monitoring		
		3	Surface and Ground water Quality		
		4	Soil Quality		
		5.	Waste management	0.5	
		6.	Greenbelt/ Plantation	0.5	
		Total:		11.0 Lakhs	
		EMP cost for waste water treatment			
		7.	Installation of Mobile ETP	Operation and Maintenance of ETP	11.0 Lakhs
			Installation of Mobile STP		
		Total			22.0 Lakhs
8	CSR /ESR Activities	Detailed Outlay of CER (Corporate Environmental Responsibility) Budget: Vedanta Limited will comply as per OM issued by MOEF & CC time to time.			
9	Green Belt/ Plantation	Greenbelt/ Plantation will be carried out suitably. 33% of the total project area.			
10	Budgetary Breakup for Labour	Estimated Budgetary Breakup for Labour Welfare: The following provisions will be made towards Labour Welfare:			
		S. No.	Particulars	Estimated Budget per well (in Lakhs)	
		1.	Safe drinking water for workforce	6.0 Lakhs/Well (Approx.)	
		2.	Sanitation facilities		
		3.	First aid facility and ambulance for emergency medical evacuation		
		4.	PPEs (Safety Boots, Helmet, Mask, ear plugs, gloves, etc.		
		5.	Environmental, safety & occupational health and wellness awareness program		
		Estimated Budgetary Breakup for Labour Welfare during Early Production Activities: The following provisions will be made towards Labour Welfare:			
		S. No.	Particulars	Estimated Budget per well (in Lakhs)	
		1.	Safe drinking water for workforce	2.0 Lakhs (Well (Approx.))	
2.	Sanitation facilities				


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		3.	First aid facility and ambulance for emergency medical evacuation	
		4.	PPEs (Safety Boots, Helmet, Mask, ear plugs, gloves, etc.	
		5.	Environmental, safety & occupational health and wellness awareness program	

The project proposal asking amendment of EC for “ Onshore Oil & Gas Exploration & Appraisal in AA-ONHP-2017/1 Hydrocarbon Block falling in Karbi Anglong & Golaghat, Inclusion of Early Production proposed by Vedanta Limited is placed before the SEAC for appraisal and deliberation. Scrutinized the requisite documents furnished by the proponent. The EC granted on earlier on 28th July, 2021 against 20 well sites in 715 Sq. K.M. AA-ONHP-2017/1 Hydrocarbon Block is discussed. Detailed discussion is held. After thorough deliberation, the committee recommended approving amendment of the EC for Early Production of 12000 BOPD crude oil setting up of 6 EPU's falling in the District of Golaghat, Assam as proposed. The terms and condition quoted in the earlier EC issued on 28-07-2021 will remain unchanged. The proponent shall have to furnish proper land documents/FC issued by the Govt. of India in the MoEFCC before actual field activities.

The SEIAA, Assam after considering the proposal and recommendations of the SEAC, Assam in its 23rd Meeting held on 14.12.2021 hereby accord Environmental Clearance for drilling at 20 Nos of wells to the project as per the provisions of Environmental Impact Assessment Notification 2006 and its subsequent amendments , subject to production of required land documents for the well nos. 11,12,14, 17,19, 20, 21, 22, 27, 28 ,29, 34, 35, 37, 39, 40, 41,42, 45 and 46 (20 nos.) as per SOP before starting the field activities. The proponent shall have to strictly adhere to the general terms and conditions applicable for such projects.

I. Statutory compliance:

- i. The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.
- ii. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
- iii. The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (in case of the presence of Schedule-I species in the study area)
- iv. The Project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/Committee.
- v. The project proponent shall obtain authorization under the Hazardous and other Waste Management Rules, 2016 as amended from time to time.
- vi. The Company shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended time to time. All transportation of Hazardous Chemicals shall be as per the Motor Vehicle Act (MVA), 1989.

II. Air quality monitoring and preservation.

- i. The project proponent shall install 24×7 continuous emission monitoring system at process stacks to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules 1986


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and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.

ii. The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through labs recognized under environment (Protection) Act, 1986.

iii. The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM10 and PM25 in reference to PM emission, and SO2 and NOx in reference to SO2 and NOx emissions) within and outside the plant area at least at four locations (one within and three outside the plant area at an angle of 120 each), covering upwind and downwind directions.

iv. To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms and/or the NAAQS. Sulphur content should not exceed 0.5% in the coal for use in coal fired boilers to control particulate emissions within permissible limits (as applicable). The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.

v. Storage of raw materials, coal etc shall be either stored in silos or in covered areas to prevent dust pollution and other fugitive emissions.

vi. National Emissions Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G.S.R. 608(E) dated 21st July, 2010 and amended from time to time shall be followed.

vii. The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 shall be complied with.

III. Water quality monitoring and preservation

i. The project proponent shall provide online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises (applicable in case of the projects achieving ZLD)

ii. As already committed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises (applicable in case of the projects achieving the ZLD).

iii. The effluent discharge shall conform to the standards prescribed under the Environment (Protection) Rules, 1986, or as specified by the State Pollution Control Board while granting Consent under the Air/Water Act, whichever is more stringent.

iv. Total fresh water requirement shall not exceed the proposed quantity or as specified by the Committee. Prior permission shall be obtained from the concerned regulatory authority/ CGWA in this regard.

v. Process effluent/any waste water shall not be allowed to mix with storm water. The storm water from the premises shall be collected and discharged through a separate conveyance system.

vi. The company harvest rainwater from the roof tops of the buildings and storm water drains to recharge the ground water and utilized the same for different industrial operations within the plant.

vii. The DG sets shall be equipped with suitable Pollution control devices and the adequate stack height so that the emissions are in conformity with the extant regulations and the guidelines in this regard.

IV. Noise monitoring and preservation

i. Acoustic enclosure shall be provided to DG set for controlling the noise pollution.


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- ii. 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.
- iii. The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz, 75 dB(A) during day time and 70 dB(A) during night time.

V. Energy Conservation measures

- i. The energy sources for lighting purposes shall preferably be LED based.

VI. Waste management

- i. Hazardous chemical shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm and the solvent transfer through pumps.
- ii. 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.
- iii. 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 vapors recovery system.
 - f. Use of high pressure hoses for equipment clearing to reduce waste water generation.

VII. Green Belt

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.

VIII. Safety, Public hearing and Human health issues

- i. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
- ii. The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.
- iii. The PP shall provide Personal Protection Equipment (PPE) as per the norms of Factory Act.
- iv. Training shall be imparted to all employees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted.
- v. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- vi. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
- vii. There shall be adequate space inside the plant premises earmarked for parking of vehicles for raw materials and finished products, and no parking to be allowed outside on public places.



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IX. Corporate Environment Responsibility

- i. The project proponent shall comply with the provisions contained in this Ministry's IM vide F.No. 22-65/2017-IA III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.
- ii. The company shall have a well laid down environment policy duly approved by the Board of Directors. The environment policy should prescribe for standards operating procedures to have proper checks and balances and to bring into focus any infringements/ violation of the environmental/ forest/ wildlife norms/ conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental/ forest/ wildlife norms/ conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MOEF& CC as a part of six-monthly report.
- iii. A separate environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
- iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
- v. Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

X. Miscellaneous

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safe guards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- iv. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- v. The project proponent shall monitor the criteria pollutants level namely; PM₁₀, SO₂, NO_x (ambient levels as well as stack emissions) or criteria sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
- vi. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- vii. The project proponent shall submitted the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and out on the website of the company.
- viii. The project proponent 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, commencing the land development work and start of production operation by the project.
- ix. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.


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- x. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- xi. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment Forest and Climate Change (MoEF&CC).
- xii. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- xiii. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- xiv. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- xv. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.
- xvi. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.
- xvii. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

[Handwritten Signature] 12.01.2022

**Member-Secretary,
SEIAA, Assam
Bamunimaidam, Guwahati 781021.**

[Handwritten Signature]

Dated: 12/01/2022

Memo No. SEIAA.1895/2021/EC/ 1818 -A

Copy to:-

- The Secretary to the Govt. of Assam, Environmental & Forest Department, Dispur, Guwahati-6 for favour of kind information.
- The Chairman, PCBA for information.
- The Regional Office, MoEF, Govt. of India, Low-U-sib, Lumbatngen, Near MTC Workshop, Shillong-21 for information.
- Office Copy.

[Handwritten Signature]

**Member-Secretary,
SEIAA, Assam
Bamunimaidam, Guwahati 781021.**