



Government of India
Ministry of Environment, Forest and Climate Change
(Issued by the State Environment Impact Assessment
Authority(SEIAA), Orissa)

To,

The Executive Director
M/S ARCELORMITTAL NIPPON STEEL INDIA LIMITED
3-A, 3rd Floor, Fortune Tower, Chandrasekharpur, Bhubaneswar- 751023
State Odisha India -751023

Subject: Grant of Environmental Clearance (EC) to the proposed Project Activity under the provision of EIA Notification 2006-regarding

Sir/Madam,

This is in reference to your application for Environmental Clearance (EC) in respect of project submitted to the SEIAA vide proposal number SIA/OR/IND/78693/2016 dated 13 Jul 2022. The particulars of the environmental clearance granted to the project are as below.

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|--|---|
| 1. EC Identification No. | EC23B007OR110978 |
| 2. File No. | 78693/31-IND/07-2022 |
| 3. Project Type | Expansion |
| 4. Category | B1 |
| 5. Project/Activity including Schedule No. | 2(b) Mineral beneficiation |
| 6. Name of Project | Expansion of Iron Ore Beneficiation Plant from 10.7 MTPA (Throughput) Capacity to 16.0 MTPA (Throughput), Relocation of Tailing Dam at Village - Sankari, Gram Panchayat - Phuljhar, Dist. - Keonjhar, Laying of Tailing Pipeline and Return Water Pipeline from Beneficiation Plant to Tailing Dam and Laying of Water Pipeline and Slurry Pipeline from Beneficiation Plant to Ghoraburhani - Sagasahi Iron Ore Block |
| 7. Name of Company/Organization | M/S ARCELORMITTAL NIPPON STEEL INDIA LIMITED |
| 8. Location of Project | Orissa |
| 9. TOR Date | 20 Jul 2017 |

The project details along with terms and conditions are appended herewith from page no 2 onwards.

Date: 14/03/2023

(e-signed)
Dr. K. Murugesan, IFS
Member Secretary
SEIAA - (Orissa)

Note: A valid environmental clearance shall be one that has EC identification number & E-Sign generated from PARIVESH. Please quote identification number in all future correspondence.

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SEIAA File No. 78693/31-IND/07-2022

Subject: Application of EC for Proposed Expansion of Iron Ore Beneficiation Plant from 10.7 MTPA (Throughput) Capacity to 16.0 MTPA (Throughput), Relocation of Tailing Dam at Village-Sankari, Gram Panchayat- Phuljhar, Dist- Keonjhar, Laying of Tailing Pipeline and Return Water Pipeline from Beneficiation Plant to Tailing Dam and Laying of Water Pipeline and Slurry Pipeline from Beneficiation Plant to Ghoraburhani - Sagasahi Iron Ore Block at Dabuna, Tahasil-Barbil, District-Keonjhar of M/s Arcelor Mittal Nippon Steel India Limited -**Environmental Clearance reg.**

This has reference to your online proposal No. SIA/OR/IND/78693/2016 dated 13.07.2022, submitted to SEIAA, Odisha for grant of Environmental Clearance(EC) for Expansion of Iron Ore Beneficiation Plant from 10.7 MTPA (Throughput) Capacity to 16.0 MTPA (Throughput), Relocation of Tailing Dam at Village-Sankari, Gram Panchayat-Phuljhar, Dist- Keonjhar, Laying of Tailing Pipeline and Return Water Pipeline from Beneficiation Plant to Tailing Dam and Laying of Water Pipeline and Slurry Pipeline from Beneficiation Plant to Ghoraburhani - Sagasahi Iron Ore Block at Dabuna, Tahasil-Barbil, District-Keonjhar of M/s Arcelor Mittal Nippon Steel India Limited in terms of the provisions of the Environment Impact Assessment(EIA) Notification, 2006 under the Environment(Protection) Act,1986 and subsequent amendments thereto.

2. Proposal in Brief:-

Proposal No.	SIA/OR/IND/78693/2016
Date of Application	13.07.2022
File No.	78693/31-IND/07-2022
Project Type	EC(expansion)
Category	B1
Project/Activity including Schedule No.	2 (b)-Mineral Beneficiation
Name of the Project	Proposal for EC for Expansion of Iron Ore Beneficiation Plant from 10.7 MTPA (Throughput) Capacity to 16.0 MTPA (Throughput), Relocation of Tailing Dam at Village-Sankari, Gram Panchayat- Phuljhar, Dist- Keonjhar, Laying of Tailing Pipeline and Return Water Pipeline from Beneficiation Plant to Tailing Dam and Laying of Water Pipeline and Slurry Pipeline from Beneficiation Plant to Ghoraburhani - Sagasahi Iron Ore Block

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Name of the company/Organization	M/s Arcelor Mittal Nippon Steel India Limited
Location of Project	Keonjhar, Odisha
ToR Date	20.07.2017(ToR), 23.01.2020 (Amendment in ToR)

3. Project Details: The highlights of the proposal as ascertained from the application as submitted by PP and as revealed from proceedings/discussion held during the meeting of SEAC/SEIAA, are given as under.

- (i) The proposal is for Environmental Clearance for Expansion of Iron Ore Beneficiation Plant from 10.7 MTPA (Throughput) Capacity to 16.0 MTPA (Throughput), Relocation of Tailing Dam at Village - Sankari, Gram Panchayat - Phuljhar, Dist.-Keonjhar, Laying of Tailing Pipeline and Return Water Pipeline from Beneficiation Plant to Tailing Dam and Laying of Water Pipeline and Slurry Pipeline from Beneficiation Plant to Ghoraburhani- Sagasahi Iron Ore Block at Dabuna, Tahasil-Barbil, District-Keonjhar by M/s. Arcelor Mittal Nippon Steel India Limited.
- (ii) Environmental Clearance for the existing Iron ore Beneficiation plant of 10.7 MTPA throughout capacity was granted by MoEF& CC,GoI vide their letter no. J-11015/876/2007-IA.II (M) dated 04.05.2009 and Amendment of EC vide their Letter No. J-11015/867/2007-IA.II (M) dated 22.05.2013.
- (iii) The PP has submitted that submission of Form-1 & PFR for expansion project was submitted to MoEF& CC vide Online application no. IA/OR/IND/58662/2016 dated 29.08.2016 and the ToR was granted by MoEF& CC, vide their letter no. J-11011/222/2016-IA.II (I), dated 20.07.2017 for undertaking detailed EIA studies for the project and amendment in ToR was granted on 23.01.2020. Now the PP has submitted the EC application in Form-2 on 13.07.2022 as per provision of MoEF&CC notification S.O. 1886 (E) dated 20.04.2022 as category 'B1' proposal.
- (iv) Location and Connectivity: The proposed project works will be carried out within the existing plant boundary of AM/NS India existing plant, which is located in village- Sankari, District- Keonjhar. The coordinates of Beneficiation plant are as follows: Latitude 21°51'30" N and Longitude 85°24'15" E.
- (v) The PP has submitted that the existing 10.7 MTPA (Throughput) Beneficiation Plant has been established over an area of 34.40 Ha(85.0acres). The truck unloading station has been set up over an area of 4.75 acre (1.92 Ha), adjacent to the Beneficiation plant at Dabuna. Additional land of 321.81 acre (130.23 Ha) at village-Sankari of Phuljhar Gram Panchayat has been identified for establishing a tailing dam. Slurry and water pipelines from Ghoraburhani- Sagasahi Iron Ore Mine to Beneficiation Plant at Dabuna will involve an area of 59.02 acre (23.886 Ha) of land. The tailing and return water pipelines from Tailing Dam to Beneficiation Plant will require 54.40 acre (22.019 Ha) of land details given below. The existing Beneficiation Plant is located on KIDCO expressway from Palaspanga to Kalimati Chakk and well connected with NH-215. The expansion project will be catering to their steel plant at paradeep for which separate EC has already been accorded by MoEF & CC.

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(vi) The PP has submitted that part of the expansion project in the Beneficiation Plant will be accommodated within the existing plant boundary. The location of Tailing Dam will be at Village - Sankari, in Phuljhar Gram Panchayat of Banspal Tahasil of Keonjhar District. Total area of the Tailing Dam is 130.23ha & there is no involvement of forest land in it. The PP has submitted that except the tailing dam area of 130.23 ha. which is under advanced possession, the remaining land has been acquired by AMNS India. The acquisition of the tailing dam area is in progress.

(vii) The project configuration is:

Sl. No.	Facilities	Capacity
Existing Project Configuration		
i)	Beneficiation Plant	10.7 MTPA (throughput) to produce 8.0 MTPA concentrate-Installed
ii)	Slurry Pipeline	12 MTPA
iii)	Tailings Pond (Not Installed)	87.01 Ha
Proposed Project Configuration		
iv)	Beneficiation Plant	16 MTPA (throughput) to produce 12.0 MTPA concentrate(Tailing max.4.0MTPA)
v)	Slurry Pipeline (Ghoraburhani – Sagasahi Iron Ore Mines to Dabuna Beneficiation Plant)	6 MTPA
vi)	Relocation of Tailings Dam from Basantpur village to Sankari Village	130.23 Ha
vii)	Underground Tailing and Return Water Pipeline and Electrical Cables with Beneficiation Plant to Tailing Dam	0 to 4 MTPA max

(viii) The revised land breakup furnished by project proponent is given as below.

Sl. No.	Land Description(in ha)	Beneficiation Plant	Truck Unloading Station	Tailing Dam	Tailing & Return Water Pipelines from Beneficiation Plant to Tailing Dam	Water & Slurry Pipelines from Beneficiation Plant to Ghoraburhani -Sagasahi Iron Ore Block

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STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY, ODISHA

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statutory body constituted by Ministry of Environment, Forest & Climate Change under Environment
(Protection) Act, 1986

01	Govt.Land (Non-Forest)	Nil	Nil	127.56 ha	2.929 ha	7.420 ha
02	Pvt.Land	34.40 ha	1.92 ha	2.67 ha	6.362 ha	Nil
03	Forest Land	Nil	Nil	Nil	12.728 ha	16.466 ha
04	Total Land	34.40 ha	1.92 ha	130.23 ha	22.019 ha	23.886 ha

- (ix) The PP has submitted that the proposed expansion of iron beneficiation plant and tailing dam are located in Keonjhar District. Only part(11.089Km out of 27.881Km) of Underground Slurry Pipeline falls in Sundargarh District. The slurry pipelines does not pass through any national parks/sanctuaries/coral reefs and ecologically sensitive areas hence it does not attract the provision of the EIA Notification,2006 & amendments thereto. The Ministry has exempted from conduct of public hearing at Sundargarh District for the iron ore slurry pipeline as it does not attract the provision of the EIA Notification,2006 & amendments thereto vide amendment in ToR letter F.No.J-11011/222/2016-IA.II(I) dated 23.01.2020.
- (x) The PP has submitted that total area involved in laying of underground tailing pipeline and return water pipeline from Beneficiation Plant to Tailing Dam is 22.019ha including 12.728ha of forest land. Total area involved in laying of water pipeline and slurry pipeline from Beneficiation Plant to Ghoraburhani-Sagasahi Iron Ore Block is 23.886ha including 16.466ha of forest land.
- (xi) Stage-I Forest Diversion Clearance for “pipelines” has been obtained for the entire 29.194 ha Forest Land vide Letter No. 5-ORC496/2022-BHU, dated 25.01.2022 and Letter No. 5-ORC481/2021-BHU, dated 28.12.2021.
- (xii) Raw Material and Source - Iron Ore fines are being used as Raw material for the proposed Beneficiation plant. Iron Ore fines of average grade between 58% to 64 % Fe is used and the Iron Ore Concentrate which will be produced from the Beneficiation plant will be of average grade between 63.5% to 66% Fe. For the proposed expansion, 16 MTPA Iron Ore fines will be required as feed of the beneficiation plant. These Iron Ore Fines will be sourced from captive mines of the company i.e., Ghoraburhani - Sagasahi Iron Ore block at Koira - Tehsil in Sundergarh District and Thakurani Iron Ore mine in Keonjhar District along with different private merchant miners available in the surrounding area of Odisha. The PP has submitted the list of mines from where iron ore fines is expected to be sourced as below.

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statutory body constituted by Ministry of Environment, Forest & Climate Change under Environment
(Protection) Act, 1986

Sl. No.	Name of the Mine	Name of the Lessee	Distance (in km)	Quantity (MTPA)
i)	Ghoraburhani-Sagasahi Iron ore mines	AMNS India	28	6
ii)	Thaukarani Iron ore mines	AMIPL	50	4.8
iii)	Balda Block C, Unchabali Iron ore mines & other merchant mines	Serajuddin & Co., Indrani Patnaik and OMC	Between 7 - 40	5.2
Total				16.0

- (xiii) Water Requirement – The PP has submitted that the total water requirement of 11.77 cusecs (about 1200 m³/h) for the beneficiation plant is sourced from Baitarani River through a 9 km long water pipeline. The water will be used in process operation, dust suppression system, slurry, and tailings transportation, flushing, firewater and drinking purpose. Drinking water requirements will be met from the raw water after necessary treatment within the plant facility.
- (xiv) Power Requirement - The PP has submitted that the existing plant operation was closely observed, and overall present plant power consumption is estimated to be 22 MW and required power after expansion is 32 MW. Six nos. of 2.25 MVA generator shall be kept as power backup.
- (xv) Green Area - The PP has submitted that the existing green area is 8.0 ha. Additionally 4.0 ha. Green belt will be developed. In tailing pond area, total greenbelt development area is 60.52ha. Total greenbelt development area is 72.52ha for the project.
- (xvi) Manpower - The PP has submitted that the existing manpower is 664 nos. Additionally 450 persons will get direct employment. The total direct employment after expansion will be 1094 nos.
- (xvii) Project Cost - Estimated project cost for expansion project is Rs.388.84 Crore. A sum of Rs.16.35/- Crores will be spent towards capital cost for EMP and a sum of Rs. 1.35/- crores will be spent towards annual recurring cost of EMP.
- (xviii) The baseline data on micro- meteorology, ambient air quality, Water quality, noise level, soil and flora & fauna were collected during December 2017 – February 2018 and December 2020 – February 2021. The following observations are made:
- Air Quality Monitoring done at 14 locations - PM_{2.5} = 56.16 to 24.12 µg/m³, PM₁₀= 93.6 to 40.2 µg/m³, SO₂= 23.6 to 4.1 µg/m³, NO₂ = 27.4 to 9.1 µg/m³ and CO = 0.98 to 0.11 mg/m³.
 - Groundwater Quality Monitoring done at 9 locations - pH: 7.46 to 7.26, Total Hardness: 92 to 76 mg/l, Chlorides: 60 to 30 mg/l and Fluoride: 0.03 to 0.01mg/l.
 - Surface Water quality Monitoring done at 12 locations - pH: 7.55 to 7.02, DO: 7.3 to 5.8 mg/l, BOD: 1.5 to 1.1 mg/l and COD: 9.1 to 4.4 mg/l.
 - Noise Levels Monitoring done at 11 locations - Night-time: 66.3 dB(A) to 34 dB(A) and Daytime: 72.4 dB(A) to 42.0 dB(A).
- (xix) Public Hearing was conducted on 12.04.2021 at Village Sankari of Phuljhar Gram Panchayat, Keonjhar District. The major public hearing issues raised were on integrated

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development of the area which includes health, education, and model village; including the construction of roads education facilities; transportation; pollution control; patta for villagers; compensation for landholders, etc.

- (xx) The Environment Consultant M/s Visiontek Consultancy Services Pvt. Ltd. Bhubaneswar along with the proponent made a detailed presentation on the EIA/EMP before the Committee on 03.08.2022.
- (xxi) The PP has submitted ADS to SEAC on 13.09.2022.
- (xxii) The SEAC in its meeting held on 02.11.2022 have recommended for grant of Environmental Clearance with stipulated conditions along with specific conditions.
- (xxiii) The proposal was put up in the 103rd meeting of SEIAA and the Authority asked the PP to submit the following requisite information.
- Distance of raw materials yard, beneficiation plant and tailing dam of existing & proposed and reason for relocation of tailing dam to Sankari village.
 - Copy of DFO letter dated 14.05.2022.
 - Certification of DFO on forest land and non-forest land involved in the project.
 - Detailed Mode of transportation of raw materials & finished product with detailed calculation on traffic.
 - Why there is no alternate use of by product-tailings from beneficiation plant.
 - Total facility wise breakup of land in the project forest & non forest & status of forest clearance.
- (xxiv) The PP has submitted requisite information to SEIAA on 13.09.2022. The proposal was put up in the 107rd meeting of SEIAA held on 20.01.2023 and the Authority observed the following:
- a) The Ministry, MoEF & CC, GOI has issued Environmental Clearance (EC) for Ghorabhurani-Sagasahi Iron ore block (ML area-139.165 Ha) vide EC F. No.J-11015/192/2016-IA.II(M) dated 20.08.2020 for proposed production of 7,162 MTPA iron ore (ROM), along with Crushing & Screening Plant and Beneficiation Plant with capacity of 6.7 Million TPA Capacity located at village-Ghoraburhani, Sagasahi and Kalmang, Tehsil Koira, District Sundargarh, Odisha with standard EC conditions for mining and beneficiation plant along with the following specific conditions (A. Specific Conditions Point no.2).
- “Till the construction of beneficiation plant in the mine lease area, the transportation of ore from mine to Dabuna Beneficiation plant by road is allowed only for 3 years. No more road transportation is allowed after 3 years without permission of the Ministry. From 4th year onwards, the ore should be transported only through proposed slurry pipeline or as per the guidelines of CSIR-NEER’s recommendation. PP shall inform Ministry for any deviation in the proposed mode of transport of minerals in case the timeline is not complied with.”

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- b) For the present proposal
- (i) The PP will transport 6.0 MTPA Iron Ore from Ghorabhurani-Sagasahi Iron ore mines (Lessee- AMIPL) to Dabuna Beneficiation plant by slurry pipeline (Distance from mines 28KM).
 - (ii) The PP will transport 4.8 MTPA Iron Ore from Thaukarani Iron ore mines (Lessee- AMIPL) to Dabuna Beneficiation plant by road (Distance from mines 50 KM).
 - (iii) The PP will transport 5.2 MTPA Iron Ore from Balda Block C, Unchabali Iron ore mines & other merchant mines to Dabuna Beneficiation plant by road (Distance from Mines-7- 40KM).
- c) After detailed deliberation in the matter, the Authority decided to seek an Undertaking by PP on the mode of transportation of iron ore.
- (xxv) The PP has submitted the required undertaking on 03.02.2023 as asked by Authority for consideration of EC of the proposal and the Authority accepted the undertaking given by PP in its 109th meeting of SEIAA held on 24.02.2023.
4. This proposal conforms to the item no. 2(b)-‘ Mineral Beneficiation’ in the schedule of EIA Notification, 2006 as amended time to time, and the Mineral Beneficiation project falls under Category B1.
 5. The SEAC have appraised the proposal for consideration of EC in its meeting dated 02.11.2022 and recommended for grant of Environmental Clearance for the project valid for a period of 10 years, stipulating various conditions.
 6. The matter was further examined in the State Environment Impact Assessment Authority (SEIAA), Odisha in its 109th meeting held on 24.02.2023, taking into consideration the undertaking dated 03.02.2023 given by PP and recommendation of SEAC for grant of environmental Clearance in accordance with the EIA Notification, 2006 and further amendments thereto. After detailed deliberation in the matter, the Authority decided to grant EC with specific and stipulated conditions as recommended by SEAC and the undertaking dated 03.02.2023 given by PP shall be put as specific condition in EC.
 7. Environmental Clearance (EC) is granted to the project valid for a period of 10 years under the provisions of EIA Notification No. S.O. 1533 (E) dated the 14th September, 2006 of the Government of India in the erstwhile Ministry of Environment and Forests, as amended from time to time for **“Proposed Expansion of Iron Ore Beneficiation Plant from 10.7 MTPA (Throughput) Capacity to 16.0 MTPA (Throughput), Relocation of Tailing Dam at Village-Sankari, Gram Panchayat- Phuljhar, Dist- Keonjhar, Laying of Tailing Pipeline and Return Water Pipeline from Beneficiation Plant to Tailing Dam and Laying of Water Pipeline and Slurry Pipeline from Beneficiation Plant to Ghorabhurani - Sagasahi Iron Ore Block”** with the following stipulations (specific and standard), environmental conditions and safeguards.

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Stipulations:

A. Specific conditions:

1. The transportation of ore from Ghorabhurani – Sagasahi Iron ore to Dabuna Beneficiation plant by road is allowed only for 3 years i.e. upto 19.08.2023 vide MoEF & CC, GoI, EC letter F. No.J-11015/192/2016-IA.II(M) dated 20.08.2020. No more road transportation is allowed after 19.08.2023 without permission of the MoEF&CC.
2. The transportation of ore from Thaukarani Iron ore mines to Dabuna Beneficiation plant by road is allowed only for 3 years. No more road transportation is allowed after 3 years without permission of the SEIAA, Odisha. From 4th year onwards, the ore should be transported only through public railway siding through conveyor belt or as per the guidelines of CSIR-NEERI recommendation. PP shall inform SEIAA for any deviation in the proposed mode of transport of minerals in case the timeline is not complied with.
3. In regard to other merchant mines from where ore will be sourced for Dabuna Beneficiation plant, the PP shall follow the guidelines of CSIR-NEERI recommendation for transportation of mineral.
4. The PP shall draw a project specific slime management plan for Dubuna beneficiation plant to address tailing storage as per required safe design capacity and utilize them safely.
5. The project proponent shall store the non-utilize grades as per IBM guidelines for future use.

B. Standard Conditions -

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, (incase 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.
- (v) The project proponent shall obtain the necessary permission from the Central Ground

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Water Authority and other concerned authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project.

- (vi) The project proponent shall obtain authorization under the Hazardous and other Waste Management Rules, 2016 as amended from time to time.

II. Air quality monitoring and preservation

- (i) The project proponent shall install 24x7 continuous emission system at process stacks to monitor stack emission with respect to standards prescribed in Environment(Protection) Rules, 1986 as amended from time to time 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(P) Act,1986 or NABL accredited laboratories.
- (ii) The project proponent shall submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring and manual monitoring of air quality /fugitive emissions to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.
- (iii) 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.
- (iv) Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.
- (v) The project proponent use leak proof trucks/dumpers carrying ore and other raw materials and cover them with tarpaulin.
- (vi) Wind shelter fence and chemical spraying shall be provided on the raw material stock piles.
- (vii) Design the ventilation system for adequate air changes as per ACGIH document for all tunnels, motor houses, Oil Cellars.
- (viii) The project proponent shall carry out conditioning of the ore with water to mitigate fugitive dust emission, without affecting flow of ore in the ore processing and handling areas.
- (ix) Effective safeguard measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of air pollutants such as haul road, loading and unloading point and transfer points. It shall be ensured that the Ambient Air Quality parameters conform to the National ambient air quality standards.
- (x) The transportation of mineral shall be carried out through the covered trucks. Vehicular emissions shall be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in beneficiation operations and in transportation of ore

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- to the beneficiation plant. The vehicles carrying the mineral shall not be overloaded.
- (xi) Mineral handling area shall be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
- (xii) Regular Ambient Air Quality Monitoring shall be carried out. The monitoring stations will be set up in consultation with the SPCB. At least four ambient air quality monitoring stations shall be established in the downward direction as well as where maximum ground level concentration of PM_{2.5}, PM₁₀, SO₂ and NO_x are anticipated in consultation with the State Pollution control Board. It will be ensured that at least one monitoring station is set up in up-wind & in down-wind direction along with those in other directions. The instruments used for ambient air quality monitoring shall be calibrated regularly.
- (xiii) Data on ambient air quality (PM_{2.5}, PM₁₀, SO₂, NO_x) shall be regularly submitted to the Ministry including its Regional office located at Bhubaneswar and the State Pollution Control Board/Central Pollution Control Board once in six months.

III. Water quality monitoring and preservation

- (i) The project proponent shall monitor regularly ground water quality at least twice a year (pre and post monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognized under Environment (Protection) Act, 1986 and NABL accredited laboratories.
- (ii) Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.
- (iii) The project proponent shall practice rainwater harvesting to maximum possible extent.
- (iv) The effluent from the ore beneficiation plant shall be treated in the tailing thickener and the tailings slurry shall be transported through a closed pipeline to the tailing pond.
- (v) The project proponent shall provide the slime disposal facility with impervious lining and collection wells for seepage. The water collected from the slime pond shall be treated and recycled.
- (vi) The garland drain shall be constructed around the tailing pond before start of operation of the project.
- (vii) The decanted water from the tailing pond shall be re-circulated and there should be zero discharge from the tailing pond.
- (viii) Appropriate technology shall be used for maximum recovery of ore in order to reduce slurry discharge and to increase the life of the tailing pond.
- (ix) Garland drains with appropriate size, gradient and length shall be constructed to arrest

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silt and sediment flows from ore dumps and directly into the water bodies. The water so collected shall be utilized for watering the roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.

- (x) Effluent Treatment Plant should be provided for treatment of wastewater generated from the beneficiation plant.
- (xi) Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.
- (xii) Adhere to "Zero Liquid Discharge".
- (xiii) Regular monitoring of water quality for surface water sources as well as ground water sources shall be carried out. The groundwater shall be monitored downstream of beneficiation plant as well as tailing pond upto groundwater table and record of monitoring data should be maintained and submitted on six monthly basis to the Ministry of Environment and Forests, its Regional Office, Bhubaneswar, the Central Ground Water Authority, the Regional Director Central Ground Water Board and the State Pollution Control Board.
- (xiv) Suitable rainwater harvesting measures on long term basis shall be planned and implemented in consultation with the Regional Director, Central Ground Water Board.
- (xv) Appropriate mitigative measures shall be taken to prevent pollution of the nearby surface water source in consultation with the State Pollution control Board.

IV. Noise monitoring and prevention

- (i) Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Office, MoEF&CC, Govt. of India, Bhubaneswar as well as SEIAA, Odisha as a part of six-monthly compliance report.
- (ii) 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) Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;
- (ii) Provide LED lights in their offices and residential areas.

VI. Waste management

- (i) The waste oil, grease and other hazardous waste shall be disposed of as per the Hazardous & Other waste (Management & Transboundary Movement) Rules, 2016
- (ii) Kitchen waste shall be composted or converted to biogas for further use.(/o be decided on case to case basis depending on type and size of plant)
- (iii) Separate impervious concrete pits for disposal of sludge shall be provided for the safe

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disposal of sludge generated from the beneficiation operation.

VII. Green Belt and EMP

- (i) Green belt shall be developed in an area equal to 33% of the plant area with a native tree species in accordance with CPCB guidelines. The greenbelt shall inter alia cover the entire periphery of the plant
- (ii) The project proponent shall prepare GHG emissions inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration including plantation.
- (iii) Plantation shall be raised all around the beneficiation plant site and the tailing pond around the plant, tailing disposal area, roads etc. by planting the native species in consultation with the local DFO/ Agriculture Department.

VIII. Public Hearing & Human Health Issues

- (i) The activities proposed and submitted in EIA/EMP report for action plan prepared for addressing the issues raised during the public hearing shall be completed as per the budgetary provisions and within a stipulated time frame of five years. The Status Report on implementation of action plan for compliance of public hearing issues shall be submitted to the concerned Integrated Regional Office of the Ministry along with District Administration.
- (ii) Issues raised and recorded in proceedings of public hearing w.r.t. environment / pollution / CER shall be complied by PP as per OM F. No. 22-65/2017-IA.III, dated 30.09.2020 of MoEF&CC, Govt. of India.
- (iii) Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
- (iv) The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms of Factory Act.
- (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.

IX. Corporate Environment Responsibility

- (i) The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-1 A.III dated 1st May 2018, as applicable, regarding Corporate

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Environment Responsibility.

- (ii) The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/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 Integrated Regional Office, MoEF&CC, Govt. of India, Bhubaneswar as well as SEIAA, Odisha 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 Regional Office, MoEF&CC, Govt. of India, Bhubaneswar as well as SEIAA, Odisha 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 for the project.
- (vi) All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Mineral Beneficiation plants shall be implemented.

X. Miscellaneous

- (i) The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards 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.

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- (iii) It shall be mandatory for the project management to submit half yearly compliance reports on the status of implementation of the above stipulated environmental safeguards to the SEIAA, Odisha / Integrated Regional Office of the MoEF& CC, Bhubaneswar in soft copies on 1st day of June and December of each calendar year. The proponent shall also upload the compliance report including results of monitored data, as applicable in the website of the Ministry for monitoring of EC Conditions, failing which EC is liable to be revoked.
- (iv) The construction and demolition wastes to be generated from the proposed project shall be disposed of in accordance with the provision under "Construction & Demolition Wastes Management Rules 2016".
- (v) The proponent shall submit/upload six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF&CC, Govt. of India, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM, SO₂, NO_x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.
- (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 environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the Odisha 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 EC conditions and shall also be sent to the respective to the MoEF&CC & its concerned Regional Office, Central Pollution Control Board and State Pollution Control Board.
- (viii) The project proponent shall inform the Regional Office, MoEF&CC, Govt. of India, Bhubaneswar as well as SEIAA, Odisha 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.
- (x) The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report and also that during their presentation to the State Level Expert Appraisal Committee & SEIAA.

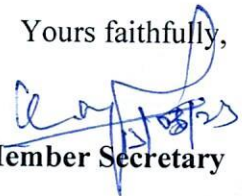
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STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY, ODISHA
5RF-2/1, Unit-IX, Bhubaneswar-751022, Tel: 0674-3510075, Email: seiaaodisha@gmail.com
statutory body constituted by Ministry of Environment, Forest & Climate Change under Environment
(Protection) Act, 1986

- (xi) No further expansion or modifications in the plant shall be carried out without prior approval of the SEIAA, Odisha.
- (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 SEIAA, Odisha may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- (xiv) The SEIAA, Odisha 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, MoEF&CC, Govt. of India, Bhubaneswar 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) This Environmental Clearance (EC) is subject to orders/judgment of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, Common Cause Conditions as may be applicable.
- (xviii) 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.

Yours faithfully,


Member Secretary

Copy to

1. **Joint Secretary (IA Division)**, Ministry of Environment, Forests and Climate Change Govt. of India, Indira Paryavaran Bhavan, Jor Bagh Road, Aliganj, New Delhi-110003 for information.
2. **Additional Chief Secretary**, Forests & Environment Dept., Government of Odisha for information.

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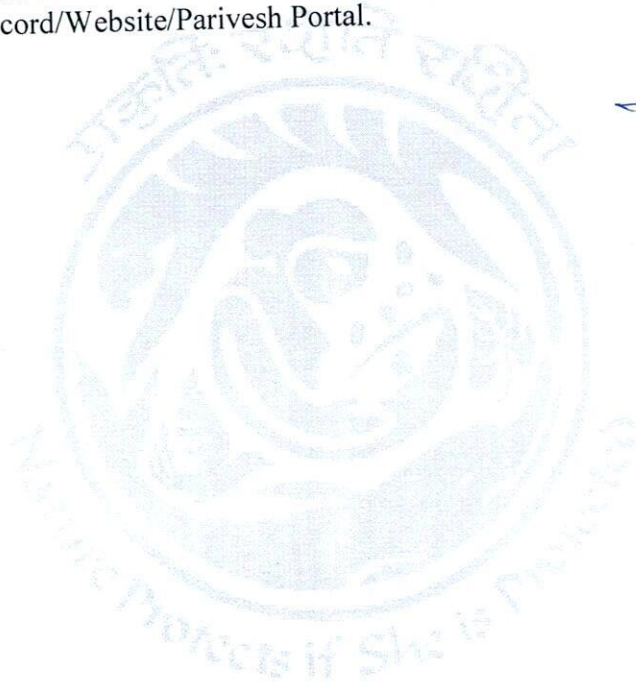
STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY, ODISHA

5RF-2/1, Unit-IX, Bhubaneswar-751022, Tel: 0674-3510075, Email: seiaaodisha@gmail.com

statutory body constituted by Ministry of Environment, Forest & Climate Change under Environment (Protection) Act, 1986

3. **Member Secretary**, State Pollution Control Board, Odisha, Paribesh Bhawan, A/118, Nilakantha Nagar, Unit-8, Bhubaneswar for information.
4. **Additional Principal Conservator** of Forests, Integrated Regional Office (IRO), Ministry of Environment & Forests, A-31, Chandrasekharapur, Bhubaneswar for information.
5. **Member Secretary**, CGWA, 18/11, Jamnagar House, ManSingh Road, New Delhi-110011 for information.
6. **Collector, District Magistrate**, Keonjhar, for kind information and necessary action
7. **Collector, District Magistrate**, Sundargarh, for kind information and necessary action.
8. **Secretary**, SEAC, Paribesh Bhawan, A/118, Nilakantha Nagar, Unit-VIII, Bhubaneswar for kind information.
9. Guard file for record/Website/Parivesh Portal.

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13/3/23.
Member Secretary