



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

To,

The Chief HSE  
FERRO ALLOYS CORPORATION LTD  
At. D.P. Nagar, PO - Randia, Dist - Bhadrak, Odisha -756135

**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/IND1/431883/2023 dated 03 Jun 2023. The particulars of the environmental clearance granted to the project are as below.

- |  |   |
|--|---|
| 1. EC Identification No.                   | EC24B007OR195428  |
| 2. File No.                                | 431883/39-IND1/06-2023  |
| 3. Project Type                            | New   |
| 4. Category                                | B   |
| 5. Project/Activity including Schedule No. | 2(b) Mineral beneficiation  |
| 6. Name of Project                         | Installation of Patabali COB Plant of Capacity 4,95,000 TPA throughput at Village:- Patabali Tehsil:-Danagadi, District:- Jajapur , Odisha of M/s Ferro Alloys Corporation Ltd. |
| 7. Name of Company/Organization            | FERRO ALLOYS CORPORATION LTD  |
| 8. Location of Project                     | ODISHA  |
| 9. TOR Date                                | N/A   |

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

Date: 03/02/2024

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

*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.*

*This is a computer generated cover page.*







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**GRANT OF ENVIRONMENTAL CLEARANCE**

**Subject: Proposal of M/s. Ferro Alloys Corporation Ltd. for installation of Patabali Chrome Ore Beneficiation Plant of Capacity 4,95,000 TPA throughput over an area of 21.95 Ac. at Village Patabali Tehsil: -Danagadi, District: - Jajpur of Sri Sandeep Kittana Acharya, the applicant- Environmental Clearance (EC) reg.**

The project proponent Sri Sandeep Kittana Acharya, applicant and Chief HSE of M/s. Ferro Alloys Corporation Ltd has submitted an application for EC to SEIAA, Odisha through the Parivesh portal of MoEF&CC, GOI vide online application no. SIA/OR/IND1/431883/2023 dated 03.06.2023 for installation of Patabali Chrome Ore Beneficiation Plant of Capacity 4,95,000 TPA throughput over an area of 21.95 Ac. at Village Patabali Tehsil: -Danagadi, District: - Jajpur.

**2. Proposal in brief:**

<b>AGENDA NO.152.09</b>	
Proposal No.	SIA/OR/IND1/431883/2023
Date of application	03.06.2023
File no.	431883/39-IND1/06-2023
Project Type	Fresh EC
Category	B1
Project/Activity including Schedule No.	2(b)- Mineral beneficiation
Name of the Project	Proposal for EC for Installation of Patabali COB Plant of Capacity 4,95,000 TPA throughput at Village- Patabali Tehsil-Danagadi, District- Jajapur, Odisha of M/s Ferro Alloys Corporation Ltd.
Name of the company/Organization	Sandeep Kittana Acharya, Chief HSE Ferro Alloys Corporation Ltd.
Location of Project	Village-Patabali Tehsil-Danagadi, District- Jajapur, Odisha
ToR Date	23.12.2022
Name of the Consultant	M/s. Ardra Consulting Services Pvt. Ltd.

3. **Project details:** The highlights of the project, as ascertained from the application and as revealed from the proceedings/ discussions held during the meetings of SEAC/SEIAA, are given as under:

- (i) This is a proposal for installation of Patabali Chrome Ore Beneficiation Plant of Capacity 4,95,000 TPA throughput over an area of 21.95 Ac. at Village Patabali Tehsil: -Danagadi, District: - Jajpur.
- (ii) SEIAA granted Terms of Reference (TOR) for the proposed project vide file No. SIA/OR/IND/77824/2022 dated 23 December 2022.





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- (iii) The Public Hearing was held on 21.4.2023 (at 11:00 A.M.) at village Patabali under Danagadi tehsil of Jajpur district for Environmental Clearance in respect of M/s Ferro Alloys Corporation Limited, for Installation & operation of Patabali Chrome Ore Beneficiation Plant of Capacity 4, 95,000 TPA throughput at Village-Patabali, Tehsil-Danagadi, District- Jajpur, Odisha. Issues raised during public hearing are health, education, women empowerment, air water and noise pollution control measures, pollution control measures for Ganda Nallah, water conservation, solid waste management, local employment, local area development. Total expenses incurred for action plan of public hearing is Rs. 4,11,00,000/-.
- (iv) The project site is located at Village - Patabali, Tehsil - Danagadi, and District - Jajpur of Odisha State. The site falls under the Survey of India Toposheet No. F45N-16 & F45O-4 bounded by Latitude-21° 5' 24.345" N & 21°5' 37.637"N and Longitude-85° 57' 54.942" E & 85°58'6.328"E. The plant footprint will have an area of 21.95 acres located at Village - Patabali, Tehsil - Danagadi, District- Jajpur, Odisha. The project area is accessible through road to the nearby Expressway and is well connected to Duburi, Chandikhole, Jajpur Road and Paradeep through road network. There is no wildlife sanctuary or notified eco-sensitive area within 10 km radius of the project area. The project is situated about 2km from Tomka Railway station. The National Highway No-16 is about 15km and Keonjhar- Paradeep Expressway is 0.01km away from the project area. There is no major habitation around the project area and the nearest habitation is Patbali Village at 500m away from the project boundary. There are no 1st or 2nd order natural drainage system within the project area.
- (v) Baseline study: Baseline study of the study area was conducted during Summer Season (March to May 2022).
- a) Ambient Air Quality Monitoring reveals that the concentrations of PM10 and PM 2.5 for all the 8 AAQM stations in the study area on a 24 hourly basis were found between 31.20 to 57.30 µg/m<sup>3</sup> and 16.40 to 28.40 µg/m<sup>3</sup> respectively. The high value of Particulate pollutant was observed at plant site which can be attributed to industrial activities and vehicular movement. The concentrations of SO<sub>2</sub> and NO<sub>x</sub> were found to be in range of 5.10 to 8.80 µg/m<sup>3</sup> and 10.10 to 16.50 µg/m<sup>3</sup> respectively.
- b) Ambient noise levels were measured at 7 locations around the project site. Noise levels vary from 48.6 to 58.04 Leq dB(A) during day time and from 34.07 to 41.08 Leq dB(A) during night time.
- c) The ground water analysis for all the 5 sampling stations shows that pH value varies from 6.94 to 7.82 & Total Hardness varies from 96 to 125 mg/L.





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- d) Surface water analysis for all the 6 sampling stations shows that pH varied from 7.30 to 8.19, Total Hardness varies from 90 to 126 mg/L. & Total Dissolved Solids varies from 68 to 220mg/L.
- e) Soil monitoring was carried out at 6 locations and the analysis results show pH value ranging from 6.9 to 7.5, which shows that the soil is acidic in nature. Organic Matter ranges from 0.62 to 0.92% in the soil samples. Nitrogen is found it ranges from 189.6 to 199.2 Kg/hectare and Phosphorous is from 6.8 to 7.8kg/ha, whereas the Potassium is found to be ranging from 108 to 123 Kg/ha. Soil of the area is found to be suitable for agricultural purposes.

STUDY PERIOD: MARCH - 2022 TO MAY -2022			
MONITORING STATION	PARAMETERS	RESULTS	STANDARD
AAQ parameters at 8 locations	PM <sub>2.5</sub>	16.4 to 28.4 µg/m <sup>3</sup>	60 µg/m <sup>3</sup>
	PM <sub>10</sub>	31.2 to 57.3 µg/m <sup>3</sup>	100 µg/m <sup>3</sup>
	SO <sub>2</sub>	5.1 to 8.8 µg/m <sup>3</sup>	80 µg/m <sup>3</sup>
	NO <sub>x</sub>	10.1 to 16.5 µg/m <sup>3</sup>	80 µg/m <sup>3</sup>
	CO	0.11 to 0.66 mg/m <sup>3</sup>	4 mg/m <sup>3</sup>
AAQ MODELLING (Incremental GLCs)	PM <sub>10</sub>	0.0007 to 0.03 µg/m <sup>3</sup>	
	CO	0.005 to 0.330 µg/m <sup>3</sup>	
GROUND WATER QUALITY AT 5 LOCATION	pH	6.73 to 7.82	6.5 to 8.5
	Total Hardness	87.36 to 125 mg/l	200 mg/l
	Chlorides	25.91 to 38.99 mg/l	250
SURFACE WATER QUALITY AT 6 LOCATIONS	pH	7.3 to 8.19	5.5 to 8.50 mg/l
	Total Hardness	84 to 126 mg/l	-
	Chlorides	29 to 39.96 mg/l	600 mg/l
	BOD	2.2 to 2.8 mg/l	3.0 mg/l
	COD	14-20 mg/l	-
	DO	4.7 to 6.1 mg/l.	4 (Minimum)

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WATER LEVEL	Depth From surface	2.4 mtr to 11.20 Mtr	Varies
NOISE LEVELS AT 7 LOCATIONS	Day Time	48.6 to 58.04	65 dB
	Night time	34.07 to 41.08	55 B

- (vi) Size & Magnitude of Operation: Chrome ore beneficiation plant of 4, 95,000 Ton/yr feed for maximum production of chrome ore concentrate of 2,97,000Ton/yr (with average 60% recovery rate). The plant will be setup within an area of 21.95acres and the greenbelt will be developed in an area of 7.24acres.
- (vii) Land use pattern:

Sl No.	Land use pattern	Area (Ha.)	Area (Acres)
a)	Truck Parking Area	0.391	0.97
b)	Rom Storage	0.640	1.58
c)	Beneficiation Plant	1.121	2.77
d)	Tsf(Tailing Storage Facility)	1.776	4.39
e)	ETP	0.016	0.04
f)	STP	0.016	0.04
g)	WTP	0.021	0.05
h)	Concentrate Yard	0.177	0.44
i)	Other Infrastructure & Road	1.682	4.15
j)	Electrical Package (Receiving Substation +Electrical Building)	0.113	0.28
k)	Green Belt	2.930	7.24
TOTAL		8.883	21.95

- (vi) Process technology: The process involves beneficiation of less than 40% Chromite Ore to upgrade it to 48%-52% concentrate. This includes the Hopper, Crusher, Washing, Ball Mill, Zigging and Gravity separation units. The wet tailings will be processed in Thickener followed by Filter press to produce Tailing Cakes, which will be stacked inside the premises in a designated area with impervious lining. The finished product concentrate shall be stored in sheds and raw material shall be stored in separate area and handled by wheel loader for feeding and loading purposes.





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- (vii) Raw Material: The Raw Material used will be Chrome Ore of below 40% Grade Cr<sub>2</sub>O<sub>3</sub> with 10% moisture with recovery rate equivalent to 40-60%. The finished products generated will be Chrome Concentrate Cr<sub>2</sub>O<sub>3</sub> with 7-8% moisture. The total quantity of Raw material as throughput is estimated at 4,95,000 TPA.
- (viii) Power Requirement: The specific Power Consumption will be 20 KWHr/Ton of Ore Processing at the proposed Plant and accordingly, to process 4,95,000 TPA Chrome Ore, 2.5 MWH Power is required for this proposed Plant which will be sourced from TPNODL. There will requirement of diesel 46.26MT/Annum, which will be sourced from outside on demand. In Case of Power Failure situation, it is envisaged that a D.G Set of 500 KVA of Kirloskar/Cummins make will be installed which will operate as emergency power back up for the plant during the power cut.
- (ix) Water Requirement: The makeup water requirement for the proposed project will be 485 KLD including 10 KLD domestic water.

Sl No.	Particulars	Quantity	Source	Mode
1.	Fresh Water Requirement (KLD)	485 KLD	Ground water	Borewell
2.	Power Requirement	2.5 MWH	TPNOD L	Underground Cable
3.	Fuel Requirement (Diesel)	46.26 MT/Annum	Supplier	Road

- (x) Waste water management: The waste water discharged from COB plant will be passing through tailing thickener and filter system and the same water will be recycled & used as process water for the COB Plant. Part of the recycling water will be taking to the ETP and the treated water from ETP will be used for dust suppression, afforestation & other industrial use purpose.
- (xi) Tailing generation and management: In the given beneficiation process, 40% by volume tailings will be generated in the form of filter cakes, which needs to be managed efficiently. The Tailing Generation is been calculated as below. Considering the range of concentrate recovery is 40-60% the tailing generation has been taken in higher side i.e. 60% tailing generation. 2,97,000 TPA tailings will be generated. Temporary storing in designated area of 297000 TPA and the accumulated solids from tailing storage yard/facility shall be transferred and disposed for the purpose of backfilling of mine void/reclamation.
- (xii) Greenbelt: Based on the agro climatic conditions of the region, location of the plant and physico bio chemical properties of the soil strata in addition to the





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nature of pollutants and their rate of dispersion, Local plant species have been identified for green belt development. The green belt will be developed over 33% of the total project area. Species to be planted are *Shorea robusta*, *Terminalia bellirica*, *Terminalia chebula*, *Terminalia alata*, *Pterocarpus marsupium*, *Madhuca indica*, *Anogeissus latifolia*, *Diospyros melanoxylon*, *Dendro calamusstrictus*, *Cleistanthus collinus*, *Cassia fistula*, *Carissa spinarum*, *Combretum roxburghii* etc.

- (xiii) Rainwater harvesting: The estimated hourly runoff from the area is estimated at 15.206 m<sup>3</sup>. Considering 90 days of rainfall per year, the daily and annual rainfall is 121.648 m<sup>3</sup> and 10948 m<sup>3</sup> respectively. This harvestable water has been planned to be stored in an open rainwater harvesting pond of capacity: 1245 Sqm x 4 = 4980 cum.
- (xiv) Manpower Requirement: The project will generate 84 nos. of manpower, out of which 25 skilled, semi-skilled 36 & unskilled and the rest 23 nos will be recruited as Administrative & Operating personnel and around 250 people will be indirectly engaged in various operations.
- (xv) Project cost: The total investment in the project is estimated to be around Rs 55.4 Crores and out of which the firm will take a term loan of Rs 45 Crores and the remaining will be contributed by the promoters from their own source. EMP Cost is Rs. 720 Lakhs (capital Cost) &Rs.90 Lakhs (Recurring Cost).

Sl. No.	Particulars	Capital Cost (Rs. in lacs)	Recurring Cost (Rs. in lacs)
a)	Air Pollution Control	115	5
b)	Water Pollution Control	45	2
c)	Noise Pollution Control	17	2
d)	Environment Monitoring & Management	87	15
e)	Occupational Health	7	2
f)	Risk control measures	5	Included in the Environmental Monitoring
g)	Safety & Disaster Management Plan	20	5
h)	Green Belt	13	6
i)	PH compliance	411	53
Sub Total		720	90

- (xvi) Environment Consultant: The Environment consultant M/s Ardra Consulting Services Pvt. Ltd, Bhubaneswar, Odisha along with the proponent made a presentation on the proposal before the Committee.

4. EIA Notification, 2006 as amended time to time, the project falls under Schedule 2(b)- Mineral beneficiation of Category "B1".





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5. The proposal was considered by the State Level Expert Appraisal Committee (SEAC) in its meeting held on 11.09.2023 and the SEAC recommended for grant of Environmental Clearance valid for 10 years with stipulated conditions.
6. The matter was further examined in the State Environment Impact Assessment Authority (SEIAA), Odisha in its 152<sup>nd</sup> meeting held on 25.01.2024 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 recommend by SEAC for Beneficiation plant.
7. **Environmental Clearance (EC) is granted under the provisions of EIA Notification No. S.O. 1533 (E) dated the 14<sup>th</sup> September, 2006 of the Government of India in the erstwhile Ministry of Environment and Forests, as amended from time to time for "Installation of Patabali Chrome Ore Beneficiation Plant of Capacity 4,95,000 TPA throughput over an area of 21.95 Ac. at Village Patabali Tehsil: -Danagadi, District: - Jajpur, Odisha" with the following stipulations(specific & standard), environmental conditions and safeguards.**

**A: Stipulations:**

Sl.	Descriptions	Stipulation
(i)	Lease Area:	21.95 Acres or 8.88 Hectares
(ii)	Plant area	5.953 Ha
(iii)	Area provision for plantation	2.93 Ha with 7350 no. of tree species with budget provision of Rs. 23.5 Lakh
(iv)	Water requirement	485 KLD and source from source water or bore well
(v)	STP capacity	15 KLD
(vi)	ETP capacity	250 cum/hr
(vii)	Validity Period of EC:	10 years from the date of issue of EC letter
(viii)	EMP Cost	Rs. 720 Lakhs (capital Cost) &Rs.90 Lakhs (Recurring Cost)
(ix)	CER Cost as per Public Hearing issues	Rs. 4,11,00,000/-

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**Specific conditions:**

- (i) The waste water that will be generated from the tailings shall be treated in ETP wherein hexavalent Chromium shall be reduced to trivalent Chromium by dosing it with appropriate standard chemical following due technical procedure.
- (ii) The PP shall obtain NOC to use the Panchayat roads from the concerned BDO for transportation of both input materials and finished products including the responsibility of maintaining the road if damaged by such transportation.
- (iii) As the PP will implement the dry stacking of tailings, there will be trickling down of effluent. Also, during rain, the leached effluent from stack will trickling down. PP shall ensure collection of these effluents for treatment with routine analysis to ensure satisfying the standard before it is discharged. All data shall be kept for periodical compliances.
- (iv) The PP shall make all efforts to adopt ZLD

**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, (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.





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

**I. Air quality monitoring and preservation**

- (i) 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.
- (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) 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.
- (iv) The project proponent use leak proof trucks/dumpers carrying ore and other raw materials and cover them with tarpaulin.
- (v) Wind shelter fence and chemical spraying shall be provided on the raw material stock piles.
- (vi) Design the ventilation system for adequate air changes as per ACGIH document for all tunnels, motor houses, Oil Cellars.
- (vii) 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.
- (viii) 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.
- (ix) The transportation of mineral shall be carried out through the covered trucks. Vehicular emissions shall be kept under control and regularly monitored.





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Measures shall be taken for maintenance of vehicles used in beneficiation operations and in transportation of ore to the beneficiation plant. The vehicles carrying the mineral shall not be overloaded.

- (x) 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.
- (xi) Occupational health surveillance program of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed. Health records of the workers shall be maintained.
- (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<sub>2.5</sub>, PM<sub>10</sub>, SO<sub>2</sub> and NO<sub>x</sub> 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<sub>2.5</sub>, PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub>) 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.

**II. 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) Garland drains and collection pits shall be provided for each stock pile to arrest the runoff in the event of heavy rains and to check the water pollution due to surface run off.
- (iv) The project proponent shall practice rainwater harvesting to maximum possible





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extent.

- (v) 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.
- (vi) The tailing pond shall be lined with appropriate impervious lining on all sides as well as the bottom to prevent any leachate going from the tailing pond into groundwater.
- (vii) The garland drain shall be constructed around the tailing pond before the starting operation on the project.
- (viii) The decanted water from the tailing pond shall be re-circulated and there should be zero discharge from the tailing pond.
- (ix) 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.
- (x) Garland drains with appropriate size, gradient and length shall be constructed to arrest 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.
- (xi) Effluents containing Cr+6 shall be treated to meet the prescribed standards before reuse. Effluent Treatment Plant should be provided for treatment of wastewater generated from the beneficiation plant.
- (xii) Run off from the mineral and reject dumps and other surface run off should be analyzed for Cr+6 and in case its concentration is found higher than the permissible limit the water should be treated before reuse.
- (xiii) Adhere to "Zero Liquid Discharge".
- (xiv) 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.
- (xv) Suitable rainwater harvesting measures on long term basis shall be planned and implemented in consultation with the Regional Director, Central Ground Water





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Board.

- (xvi) Appropriate mitigative measures shall be taken to prevent pollution of the nearby surface water source in consultation with the State Pollution control Board.

**III. 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

**IV. 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.

**V. 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 disposal of sludge generated from the beneficiation operation.

**VI. 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.





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- (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.

**VII. 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 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.
- (iii) 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
- a) 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.
- (iv) Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.

**VIII. 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 1<sup>st</sup> May 2018, as applicable, regarding Corporate Environment Responsibility.
- (ii) The company shall have a well laid down environmental policy duly approve 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 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.





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- (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
- (vi) All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Mineral Beneficiation plants shall be implemented.
- IX. Half-yearly Compliance Report:** - 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 / Regional Office of the MoEF& CC, Bhubaneswar upload in Parivesh Portal on 1<sup>st</sup> 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.
- 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.
- (iii) 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.





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- (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 project proponent shall monitor the criteria pollutants level namely; PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels as well as stack emissions) or critical 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 submit 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 put on the website of the company.
- (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.
- (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.





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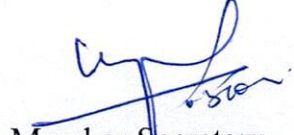
- (xv) The Regional Office, MoEF&CC, Govt. of India, Bhubaneswar shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
- (xvi) The above 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) 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. Additional Chief Secretary, Forest, Environment & Climate Change Dept., Government of Odisha for information.
2. Member Secretary, State Pollution Control Board, Odisha, Paribesh Bhawan, A/118, Nilakantha Nagar, Unit-8, Bhubaneswar for information.
3. Member Secretary, SEAC, Paribesh Bhawan, A/118, Nilakantha Nagar, Unit-VIII, Bhubaneswar for information.
4. Deputy D.G.Forest., Integrated Regional Office (IRO), Ministry of Environment & Forests, A-31, Chandrasekharpur, Bhubaneswar for information.
5. Collector & DM, Jajpur/ DFO, Cuttack/ Sub Collector, Jajpur/Mining Officer, Jajpur for Information and necessary action.
6. Guard file for record/Website/Parivesh Portal.

  
Member Secretary