Dated 29.11.2021



Ref. No: AMNS/ Sagasahi/127

The Director (S), Integrated Regional Office (IRO), Ministry of Environment, Forest & Climate Change, A-31, Chandrasekharpur, Bhubaneswar

- Sub: Half-yearly Environmental Clearance Compliance Report of Ghoraburhani -Sagasahi Iron Ore Mining Project of ArcelorMittal Nippon Steel India Limited for production of 7,162,538 TPA iron ore (ROM), 18750 TPA Topsoil and 2,868,896 TPA 08/SB/IB (Total excavation: 1,00,50,184 TPA) along with Crushing & Screening Plant and Beneficiation Plant with capacity of 6.7 Million TPA (1250 TPH) Capacity over ML area of 139.165 Ha the period April to September 2021– Reg.
- Ref: MoEF&CC Environment Clearance letter No. J-11015/192/2016-IA.II (M) dated 28.05.2020.

Dear Sir,

This is in reference to the above subject, we would like to be inform you that, the project has started its operation from 9th September 2021.

Therefore, we are sending the six monthly Environmental Clearance compliance report in soft copy by email - roez.bsr-mef@nic.in and the same will be uploaded in our company website i.e. <u>www.amns.in</u> with comprehensive data analysis reports (supporting photographs and monitoring reports) for the period **April to September 2021** in respect of Ghoraburhani - Sagasahi Iron Ore Mining Project of ArcelorMittal Nippon Steel India Limited.

This is for your kind information, please.

Thanking you,

Yours truly, For and on behalf of **ArcelorMittal Nippon Steel India Limited**

Junio

Authorized Signatory Ramakrishna Chinnamsetty Head of Mining & Business Development.

ArcelorMittal Nippon Steel India Limited (Formerly Essar Steel India Limited)

Pellet Plant, Udayabata, Paradeep - 754 142 Dist.: Jagatsinghpur Odisha, India Regd. Off: 27km, Surat-Hazira Road, Hazira, Surat

Gujarat 394270 India CIN U27100GJ1076FLC013787 T +91 67 2222 7076 E contact@amna.in W www.amns.in



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NIPPON STEEL

ArcelorMittal



Encl.: As above

Copy to:

- 1. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-Cum Office Complex, East Arjun Nagar, Delhi - 110032
- 2. The Chairman, State Pollution Control Board, Orissa, A/118, Nilakantha Nagar, Unit VIII, Bhubaneswar – 751012, Email - paribesh1@ospcboard.org
- 3. The Regional Director, Central Ground Water Board, Government of India, South Eastern Region, Bhubaneswar – 751030, Email: rdser-cgwb@nic.in

Page 2 of 2

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ArcelorMittal

sl. NO	SPECIFIC CONDITIONS	STATUS AS ON DATE / ACTION TAKEN
1	This EC for production of 7,162,538 TPA iron ore (ROM), 18750 TPA Top soil and 2,868,896 TPA OB/SB/IB (Total excavation: 1,00,50,184 TPA) along with Crushing & Screening Plant and Beneficiation Plant with capacity of 6.7Million TPA (1250TPH) Capacity in the mine lease area of 139.165 ha shall be operational after submission of an undertaking through affidavit to MoEF &CC within 15 days of receipt of the EC letter, for compliance of all the conditions prescribed herein.	The Project Proponent has submitted an undertaking through affidavit to MoEF & CC for compliance of all the conditions stipulated in the environment clearance letter. Copy enclosed as Annexure # 1 .
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 4 th 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.	The Project Proponent will abide by the condition as stipulated and will inform Ministry for any deviation in the proposed mode of transport of minerals in case the timeline is not complied with.
3	Accessing the forest land for activities shall be applicable after getting Stage-II FC approval. No mining activity shall be carried out without obtaining Stage-II of Forest Clearance for the forest land involved in the project.	The project has obtained Stage –II of Forest clearance vide letter No.8- 55/2018FC dt. 15.12.2020 over 120.838 Ha of forest land involved in the project towards mining activity. Copy enclosed as Annexure # 2 .
4.	Installation of crusher and screening plant with proposed capacity only will be allowed. No further installation of crusher and screening plants are allowed without permission of the Ministry.	The Project Proponent is abiding by the said condition and installed dry fog system for dust suppression purpses. No further installation of crusher and screening plants shall be done without permission of the

		Ministry.
5	PP shall construct the tailing pond as committed and make regular maintenance for the same.	Project proponent will construct the tailing pond as committed during the 4th year of mining operation and construction of beneficiation plant as proposed. The applicable regular maintenance for the same will be followed as per the prescribed guidelines of consent to operate.
6	PP shall make the rain water harvesting system as committed before the EAC.	Project proponent has planned for construction of the rain water harvesting system as committed before the EAC. Presently the project is in its initial stage. In due course of time the measures shall be undertaken in the form of roof top rain water harvesting in residential areas/office campus in core & buffer zone as well as in the form of settling ponds and check dam/check weirs at strategic points of operational core areas as applicable.
7.	PP shall construct garland drains with protective bunds around excavated area, to avoid entrance of surface run off into pit and mixing with ground water. Furthermore, PP shall make garland drains/storm water drains along with siltation/settling tanks at regular interval around the active mine pits through proper plan which follow the natural slope of surface run off and/or to avoid its mixing with groundwater.	Presently mining is at initial stage. There is no such ground water accumulation in the mine operational area. It will be complied in due course of mine development if applicable. However, the mines has developed garland drains at the appropriate locations. Photo enclosed as Photo # 1.
8	PP shall make check dams to prevent sedimentation/siltation of natural water courses.	Presently mining is at initial stage. It will be complied in due course of mine development as applicable in south pit area. The PP has planned to construct number of check dams as per approved mining plan.

9	PP shall make progressive green belt and plantation like bench plantation and also make plantation mineral storage, top soil stack, road, magazine and other places as committed.	During monsoon period Project Proponent has planted 7134 nos. of native species in safety zone areas as well as 375 nos in outside ML area towards the development of progressive green belt. Photo of planation is enclosed as Photo # 2 . Top soil is being stored inside Mining Lease and the same will be utilised for plantation purposes. Photo of the same is enclosed as Photo # 3 .
10	PP shall comply all action plans made for public hearing concerns and make regular maintenance and record the progressive activity outcomes.	Project proponent is complying all the action plans made for public concerns followed by its regular maintenance along with the record of progressive activity outcomes.
11	The EC is subject to outcome of W.P.(C)No.9247/2018 before Hon'ble High Court of Odisha.	We are abiding by the verdict of W.P.(C)No.9247/2018 before Hon'ble High Court of Odisha.

B. Recommendation of CSIR-NEERI Report on "Carrying Capacity Study for BEnvironmentally Sustainable Iron and Manganese ore Mining Activity in Keonjhar, Sundargarh and Mayurbhanj districts of Odisha State: The committee has also deliberate the various specific recommendations of carrying capacity study report conducted by CSIR-NEERI w.r.t. mining proposal of iron ore and/or manganese in the state of Odisha. There are recommendation which needs to be implemented by the State Govt. of the carrying capacity study report, the Committee has also recommended the following specific conditions viz.

SL. No.	SPECIFIC CONDITIONS	STATUS AS ON DATE / ACTION TAKEN
1)	Project Proponent and Department of Steel & Mines, Govt. of Odisha shall ensure the implementation of recommendations of carrying capacity study report conducted by CSIR-NEERI w.r.t. mining proposal of Iron Ore and/or manganese in the State of Odisha.	Project Proponent is implementing the recommendations of carrying capacity study report conducted by CSIR- NEERI.
2)	Department of Steel & Mines, Govt. of Odisha should prepare 5 years regional plan for annual iron ore requirement from the state, which in turn shall be met from different mines/zones (e.g. Jada, Koira.) in the state. Accordingly, sustainable annual production (SAP) for each zone/mine may be followed adopting necessary environmental protection measures.	Department of Steel & Mines,Govt. of Odisha will do the needful .
3)	Project Proponent shall construct the cement concrete road from mine entrance and exit to the main road with proper drainage system and green belt development along the roads and also construction of road with minimum 300 m inside the mine. This should be done within one year for existing mines and new mine should have since beginning. The Department of Steel & Mines, Govt. of Odisha should ensure the compliance and should not issue the Mining Permits, if mine lease holder has not constructed proper cement	A public blacktopped road is running through the Mining Lease which has divided lease into Pit-1 and Pit-2.This road will be connected to both Pit-1 and Pit-2 through a 9 m wide cement concrete road, which will serve as two way movement of vehicle. The construction of the same is under process. The approx. length of this connecting pucca road will be 300m inside the mines. Besides drainage channel will be made on either side of concrete road and green belt plantation will be developed and maintained.

	concrete road as suggested. This	
	Environmental Clearance for the	
	expansion project shall be	
	operated only after the	
	compliance of the above	
	mentioned specific condition.	
4)	The Committee observed that as per there commendations of NEERI report the PP needs to do regular vacuum cleaning of all mineral carrying roads aiming at "zero dust re-suspension" within 3 months. This Environmental Clearance for the expansion projects shall be operated only after the compliance of the above	Vacuum cleaners is planned for cleaning of all mineral carrying roads inside ML area including road passing centrally through the mining Lease and also for the proposed cement concrete road with estaimted budget has been earmarked for procurement of 1 no Vacuum cleaner for the mine as well as its Opex for first 5 years.
	mentioned specific condition.	
5)	Project Proponent shall monitor the environmental quality parameters as per EC and CTE/CTO conditions, and implementation of suggested measures for control of road dust and air pollution. Odisha State Pollution Control Board has to ensure the compliance of CTE/CTO. Regional office of the MoEF&CC, Bhubaneswar shall monitor the compliance of the EC conditions. Regional office of the Indian Bureau of Mines (IBM) shall monitor the compliance of mining plan and progressive mine closure plan. Any violation by mine lease holder may invite actions per the provisions of applicable Acts.	The environmental quality parameters are being carried out as per the EC and CTE/CTO conditions. The project has taken measures for control of road dust and air pollution by engaging number of water tankers for sprinkling purposes and compliances of EC and mine plan conditions. Photo enclosed as Photo # 4 .
6)	Project Proponent shall ensure the compliance of Suggested Ore Transport Mode (SOTM) with association of the State Government of Odisha. All existing mines should ensure adoption of SOTM within next 5 years. New mines or mines seeking expansion should incorporate provision of SOTM in the beginning it self, and	suggested Ore Transport Mode

	should have system in place within next 5 years.	
7)	The State Govt. of Odisha shall ensure dust free roads in mining areas wherever the road transportation of mineral is involved. The road shoulders shall be paved with fence besides compliance with IRC guidelines. All the roads should have proper drainage system and apart from paving of entire carriage width the remaining right of way should have native plantation (dust capturing species).Further, regular maintenance should also be ensured by the Govt. of Odisha. Progress on development of dust free roads, implementation of SOTM, increased use of existing railnetwork,development of additional railway network/conveyorbelt/ pipelinesetc.shall be submitted periodically to Regional office of the MoEF&CC.	of Odisha will do the needful . In addition, the project is carrying out regular water sprinkling on roads.
8)	Project Proponent shall develop the parking plazas for trucks with proper basic amenities/ facilities inside the mine. This should be done within one year for existing mines and new mines should have since beginning. This Environmental Clearance for the expansion project shall be operated only after the compliance of the above mentioned specific condition.	has been planned adjacent to mine access road & will be constructed as soon as mine dispatch operation
9)	•	Department of Steel & Mines, Govt. of Odisha will do the needful .

	•	
	proper width and drainage	
	system along with road side	
	plantation to be carriedout. This	
	shall be completed within 2 Years.	
	Regular vacuum cleaning of all	Vacuum cleaner is planned for
	mineral carrying roads aiming at	•
	"Zero Dust Re-suspension" shall be	inside ML area including road
	adopted by PWD/NHAI/ Mine	Ű,
10)		passing centrally through the mining
10)	Lease Holders within a time Period	Lease and also for the proposed
	of 3 months for existing roads. This	cement concrete road & an
	Environmental Clearance for the	estaimted budget has been ear-
	expansion project shall be	marked for procurement of 1 no
	operated only after the	Vacuum cleaner for the mine as well
	compliance of the above	as its Opex for first 5 years.
	mentioned specific condition.	. ,
	In case the total requirement of iron	Department of Steel & Mines,Govt.
	ore exceeds the suggested limit for	
	that year, permission for annual	
111	production by an individual mine	
11)	may be decided depending on	
	approved EC capacity (for total	
	actual dispatch)and actual	
	production rate of individual mine	
	during last year or any other criteria	
	set by the State Govt., i.e. Dept. of	
	Steel & Mines. Department of Steel	
	and Mines in consultation with	
	Indian Bureau of Mines-RO should	
	prepare in advance mine-wise	
	annual production scenario so that	
	demand for iron ore can be	
	anticipated, and actual	
	production/dispatch does not	
	exceed the suggested annual	
	production.	
	R&D studies towards utilization of	, , ,
	low-grade iron ore should be	,
	conducted through	Bhubaneswar using the available
	research/academic institutes like	-
	IMMT, Bhubaneswar, NML,	Iron ore beneficiation plant is
	Jamshedpur, and concerned	porposed which will come into
	metallurgical departments in IITs,	
	NITs etc., targeting full utilization of	
121		
12)	low-grade iron ore (Fe content up to	
	45% by 2020 and upto 40% by	
	2025). In fact, lifecycle assessment	

	of whole process including environmental considerations should be done for techno- economic and environment viability. R&D studies on utilization of mine waste water having high concentration of Fe content for different commercial applications in industries such as cosmetics, pharmaceutical, paint industry should also be explored. Responsibility: IBM, Dept.of Steel & Mines, Individual Mine Lease Holders.	
13)	The mining activity in Joda-Koira sector is expected to continue for another 100 years, therefore, it will be desirable to develop proper rail network in the region. Rail transport shall not only be pollution free modebut also will be much economical option for iron ore transport. The rail network and/or conveyor belt system upto public railway siding needs to be created. The total length of the conveyor belt system/ rail network to be developed from mines to nearest railway sidings by 11 mines in Joda region is estimated to be about 64 km.Similarly, in Koira region, total length of rail network/ conveyor system for 8 mines (under SOTM 1 &2) is estimated to be around 95 km. Further, it is suggested to develop a rail network connecting Banspani (Joda region) and Roxy railway sidings in Koira region. Responsibility: Dept. of Steel &Mines, Govt. of Odisha and Concerned Mines along with Indian Railways. Time Period: Maximum 7 years (by 2025). The Department of Steel &Mines, Govt. of Odisha should follow- up with the concerned	

	Departments and railways so that	
	proposed proper rail network is in	
	place by 2025.	
14)	State Govt. of Odisha shall make all efforts to ensure exhausting all the iron & manganese ore resources in the existing working mines and from disturbed mining leases/zones in Joda and Koira region. The criteria suggested shall be applicable while suggesting appropriate lease area and sustainable mining rate. Responsibility: Dept. of Steel & Mines, Govt. of Odisha.	Department of Steel & Mines,Govt. of Odisha will do the needful .
15)	Mining Operations/Process Related: Project Proponent shall implement the following mitigation measures: (i) Appropriate mining process and machinery (viz. right capacity, fuel efficient) should be selected to carry out various mining operations that generate minimal dust/air pollution, noise, wastewater and solid waste. e.g. drills should either be operated with dust extractors ore quipped with water injection system. (ii)After commencement of mining operation, a study should be conducted to assess and quantify emission load generation (in terms of air pollution, noise, waste water and solid waste)from each of the mining activity (including transportation) on annual basis. Efforts should be made to further eliminate/ minimize generation of air pollution/dust, noise, wastewater, solid waste generation in successive years through use of better technology. This shall be ensured by the respective mine lease holders. (iii)Various machineries/equipment selected (viz. dumpers, excavators, crushers, screen plants etc.) and transport	noise, wastewater, solid waste generation in successive years through use of better technology. iii) Fuel / power consumption, inspection and maintenance schedules of all machineries are being recorded on monthly basis. iv) Digital processing of the entire lease area using remote sensing technique(satellite Imagery) will be done once in 3years for monitoring the land use pattern and the mining activity and also the area excavated in Pits will be demarcated based on the remote sensing analysis and the same will

	means should have optimum fuel/power consumption, and their fuel/power consumption should be recorded on monthly basis. Further, inspection and maintenance of all the machineries/ equipment/ transport vehicles should be followed as per manufacturer's instructions/ recommended time schedule and record should be maintained by the respective mine lease holders. (iv) Digital processing of the entire lease area using remote sensing technique should be carried out regularly once in 3 years for monitoring land use pattern and mining activity taken place. Further, the extent of pit area excavated should also be demarcated based on remote sensing analysis. This should be done by ORSAC (Odisha Space Applications Centre, Bhubaneswar) or an agency of national repute or if done by private agency, the report shall be vetted/authenticated by ORSAC, Bhubaneswar. Expenses towards the same shall be borne by the respective mine lease holders. Responsibility: Individual Mine Lease	agency of national repute/ any empanelled agency of ORSAC followed by vetting from ORSACat the expenses of the project proponent.
	Holders.	
16)	Air Environment Related: Project Proponent shall implement the following mitigation measures: (i) Fugitive dust emissions from all the sources should be controlled regularly on daily basis. Water spraying arrangement on haul roads, loading and un loading and at other transfer points should be provided and properly maintained. Further, it will be desirable to use water fogging system to minimize water consumption. It should be ensured that the ambient air quality	 i) Regular water sprinkling is being carried out by engaging water tankers on haul roads and in critical areas prone to air pollution and having high levels of particulate matters such as crushing & screening plants, loading and unloading and transfer points for dust suppression. ii) 4 numbers of ambient air quality monitoring stations have been established in the core zone for SPM, PM10, PM2.5,SO2, NOx and CO monitoring .The monitoring report

17)	overloaded. Further, possibility of closed container trucks should be explored for direct to destination movement of iron ore. Air quality monitoring at one location should also be carried out along the transport route within the mine (periodically, near truck entry and exit gate), Responsibility: Individual Mine Lease Holders and SPCB. Noise and Vibration Related: Project Proponent shall implement the following mitigation measures:(i)Blasting operation should be carried out only during day time. Controlled blasting such as Nonel, should be practiced. The mitigation measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented.(ii)Appropriate measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs/muffs. (iii) Noise levels should be monitored regularly (on weekly basis)near the major sources of noise generation within the core zone. Further, date, time and distance of measurement should also be indicated with the noise levels in the report. The data should be used to map the noise generation from different activities and efforts should be made to maintain the noise levels with the acceptable limits of	 i) Blasting operation has not started yet and will be carried out only during day time only. Blasting will be done using the latest technology controlled blasting technique. ii) Noise level is being monitored by Noise Level Meter. The result reveals that the parameter is well within the prescribed norms. iii) Measurement & Monitoring of vibration level is being carried out as per the suggestion. Noise monitoring report enclosed as Annexure # 3a
	within the core zone. Further, date, time and distance of measurement should also be indicated with the noise levels in the report. The data should be used to map the noise generation	
	should be made to maintain the noise	
	significant changes due to successive mining operations. Responsibility: Individual Mine Lease	

	Holders.	
18)	Water/Wastewater Related: Project Proponent shall implement the following mitigation measures: (i)In general, the mining operations should be restricted to above ground water table and it should not intersect groundwater table. However, if enough resources are estimated	i)Based on the exploratory evidences and hydrological study, the lowest working level is 520 mRL whereas the ground water table starts at 503 mRL. Therefore, mining operation will not intersect the ground water table.
	below the ground water table, the same may be explored after	ii)No perennial nala / stream passes through the Mining Lease area.
	conducting detailed geological studies by GSI and hydro- geologicalstudies by CGWB or NIH or institute of national repute, and ensuring that no damage to the land stability/ water aquifer system shall happen. The details/ out come of such study may be reflected/incorporated	iii)Regular monthly monitoring of ground water level and its quality is being carried out within the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operation.
	in the EIA/EMP report of the mine appropriately. (ii)Natural watercourse and/or water resources should not be	iv) Rain water harvesting measures is planned for implemention.
	obstructed due to any mining operations.Regular monitoring of the flowrate of the springs and perennial nallas should be carried out and	v)The project has planned to implement roof top rain water harvesting structures in camp and office premises.
	records should be maintained. Further, regular monitoring of water quality of nallas and riverpassing thorough the mine lease area (upstream and downstream locations) should be carried out on monthly basis.	vi) Workshop is not commissioned yet. The project has planned to implement ETP with oil & grease trap pit with re-circulation system for reuse in the workshop areas.
	(iii) Regular monitoring of groundwaterlevel andits quality should be carried out with in the mine lease area by establishing a network of existing wells and constructing new piezometersduring the mining operation. The monitoring should be carried out on monthly basis. (iv) In	Apart from these, propject has commissioned 80 KI capacity STP within camp premises with water re- use facility and to prevent pollution of nearby river/other water bodies. Photo of the same is enclosed as Photo # 6.
	order to optimize water requirement, suitable conservation measures to augment ground water resourcesin the	vii)Provisions are made for collection & treatment of Industrial Waste water (Work shop & Waste water from the mine).

	1
area should be undertaken in consultation with Central Ground WaterBoard(CGWB).(v)Suitable rainwater harvesting measures on longterm basis should be planned and implemented in consultation with CGWB, to recharge the ground water source. Further, CGWB can prepare a comprehensive plan for the whole region. (vi) Appropriate mitigation measures (viz. ETP, STP, garland drains,retaining walls,collection of runoffetc.)should be taken to prevent pollution of nearby river/other water bodies. Water quality monitoring study should be conducted by State Pollution Control Board to ensure quality of surface and ground water sources on regular basis.The study can be conducted through NABL/ NABET approved water testing laboratory.However,the report should be vetted by SPCB. (vii)Industrial wastewater (workshop and wastewater from the mine) should be properly collected, treated in ETP so as to conform to the discharge standards applicable.(viii)Oil and grease trap should be installed before discharge of workshop effluents. Further, sewage treatment plant should be installed for the employees/colony,wherever applicable.(ix)Mine lease holder should ensure that no siltoriginating due to mining activity is transported in the surface water course or any other water body. Appropriate measures for prevention and control of soil erosion and management of silt should be undertaken.Quantity of silt/soil generated should be measured on regular basis for its better	 Viii) The project proponent has planned to implement ETP with oil & grease trap pit with recirculation system for reuse. x) In the entire lease area wherever possibilities of soil erosion , flow of sediments etc. is anticipated, the project Proponent will provide retaining wall,garland drain & check weir/check dams. De-siltation shall be carried our on regular basis. x) Geo textile matting will be provided over the dump sites to minimize erosion. Dumps will also be protected providing retaining walls on their outer periphery. xi) The project has planned to construct retaining wall and garland drains around the toe of the OB dumps and the wash off shall be channelized to the near by settling pits in line with the approved mining plan. xii)The waste water if any stored in Mine pit shall be utilised for the sprinkling on haul roads and green belt development. xiii)There is no waste water discharged from the mine. We are planning to optimize water consumption by adopting suitable technique in consultation with competent authourities.

	utilization.(x)Erosion from dumps site	
	should be protected by providing	
	geo-textile matting or other suitable	
	material, and thick plantation of	
	native trees and shrubs should be	
	carried out at the dump	
	slopes.Further,dumps should be	
	protected by retaining	
	walls.(xi)Trenches/garland drain should	
	be constructed at the foot of dumps to	
	arrest silt from being carried to	
	waterbodies.Adequate number of	
	checkdams should be constructed	
	across seasonal/perennial nallas (if	
	any)flowing throughthe mine lease	
	area sand silt be arrested. De-silting at	
	regular intervals should be carried out	
	and quantity should be recorded for its	
	better utilization,after proper soil	
	quality analysis. (xii)Thewater so	
	collected in the reservoir within the	
	mine should be utilized for the	
	sprinkling on hauls roads, green belt	
	developmentetc. (xiii) There should be	
	zero waste water discharge from the	
	mine. Based on actual water with	
	drawal and consumption/ utilization in	
	different activities, water balance	
	diagram should be prepared on	
	monthly basis, and efforts shouldbe	
	made to optimize consumption of	
	water per ton of ore production in	
	successive years. Responsibility:	
	Individual Mine Lease Holders,SPCB	
	and CGWB.	
19)	Land/Soil/Over burden Related:	i) Top soil is being stored as per the
	Project Proponent shall implement the	approved mining plan. Grass
	following mitigation measures: (i) The	patches/ seddlings will be
	top soil should temporarily be stored at	developed over top soil stack to
	earmarked site(s)only and it should not	preserve its nutrient content and the
	be kept unutilized for long(not	same will be utilised for plantation
	morethan 3 years or as per provisions	activities & green belt development.
	mentioned in the	ii) It is s being followed.
		iii) OB/ Sub- grade Ore is being

mineplan/scheme).The top soil should be used for land reclamation and plantation appropriately. (ii)Fodder plots should be developed in thenon- mineralised area in lieu of use of grazing land,ifany.(iii) Over burden/ low grade ore should be stacked at earmarked dump site(s)only and should not be kept active for long period.The dump heightshould be decided on case to case basis, depending on the size of mine andquantity of waste material generated.However,slope stability study should be conducted for larger heights, as per IBM approved mine plan and DGMS guidelines. The OB dump should be scientifically vegetated with suitable native species to prevent erosion and surface runoff.Incriticalareas,use of geotextiles should be undertaken for stabilization of the dump.Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Proper records should be maintained regarding species,theirgrowth, area coverage etc. (iv) Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from mine operation,soil,OB and mineral dumps.The water so collectedcan be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly de-silted, particularly after monsoon and should be maintained properly.Appropriate documents should be maintained for appropriate size, gradient and length should be constructed for mine pit,soil.	per the pproved Mining Plan . Appropriate measures like garland drain, retaining wall are constructed to take care of any erosion and for its stabilization. v) Catch Drains and other appropriate measures will be constructed at the dump sites. v) Back filling of the area will be done as per the approved mining Plan. vi) There will be minimum generation of Hazardous Wastes except in field machinery maintenance workshops, which will be separately handled with all precautionary measures as per guideline provided under "Hazardous waste Management Rule 2016".

	OB and mineral dumps and sump	
	capacity should be designed with	
	appropriate safety margin based on	
	long term rainfall data.Sump capacity	
	should be provided for adequate	
	retentionperiod to allow proper settling	
	of silt material. Sedimentation pits	
	should be constructed at the corners	
	of the garland drains and de-silted at	
	regular intervals.(v)Backfilling should	
	be done as perapproved mining	
	plan/scheme. There should be no OB	
	dumps outside the mine lease area.	
	The backfilled area s should be	
	afforested, aiming to restore the	
	normal ground level. Monitoring and	
	management of rehabilitated areas	
	should continue till the vegetation is	
	established and becomes self-	
	generating. (vi) Hazardous waste such	
	as, waste oil, lubricants, resin, and	
	coaltar etc. should be disposed off as	
	per provisions of Hazardous Waste	
	Management Rules,2016,as amended	
	from timeto time.Responsibility:	
	IndividualMineLeaseHolders.	
20)	Ecology/Biodiversity (Flora-Fauna)	i) Site specific wildlife conservation
-	Related: Project Proponent shall	plan got approved by PCCF Wildlife
	implement the following mitigation	and Chief Wildlife Warden,
	measures: (i)All precautionary	Bhubaneswar with an estimated cost
	measures should be taken during	of Rs1257Lakhls of which Rs. 348.770
	mining operation for conservation and	lakhs has been earmarked for
	protection of endangered fauna	implementation of plan within the
	namely elephant, sloth bear etc.	mine lease area and Rs. 908.240
	spotted in the study area. Action plan	Lakhs has been earmarked for
	for conservation of flora and fauna	implementation of plan within the
	should be prepared and implemented	buffer zone (ZOI).No such species
	in consultation with the State Forest	has been reported in the core zone
	and Wildlife Department within the	as per Wild life Management study
	mine lease area, whereas outside the	conducted over the area .
	mine lease area, the same should be	ii. A detailed Site Specific Wild life Conservation Plan has been
	maintained by State Forest	Conservation Plan has been prepared for Flora and Fauna .
	Department.(ii)Afforestation is to be	iii. Afforestation is to be done by

	-
done by using local and mixed species	using local and mixed species
saplings with in and out side the mining	saplings within and outside the
lease area.The reclamation and	mining lease area.
afforestation is to be done in such a	iv. Green belt has been proposed &
manner like exploring the growth of	carried all along the safety zone
fruit bearing trees which will attract the	around the Mining Lease, both sides
fauna and thus maintaining the	of the village road.
biodiversity of the area. As	v. Green belt over 6.755 Ha will be
afforestation done so far is very less,	developed with the native species.
forest department needs to identify	vi Financial outlaw for componentation
adequate land and do afforestation	vi. Financial outlay for compensatory
by involving local people in a time	afforestation as approved in De-
bound manner. (iii) Green belt	reservation Proposal is Rs 2.31 Cr.
development carried out by mines	Further, proposed budget for Wild life
should be monitored regularlyin every	management plan is Rs12.57 Cr. Out
season and parameters like area	of this an amount of Rs 100 Lakhs has
under vegetation/plantation, type of	been allocated for conservation of
plantation, type of tree species /grass	Schedule - I species.
species/scrubs etc., distance between	
the plants and survival rate should be	
recorded. (iv) Green belt is an	
important sink of air pollutants	
including noise. Development of	
green cover in mining area will not	
only help reducing air and noise	
pollution but also will improve the	
ecological conditions and preventsoil	
erosion to a greater extent. Further,	
selection of tree species for green belt	
should constitute dust removal/dust	
capturing plants since plants can act	
as efficient biological filters removing	
significant amounts of particulate	
pollution. Thus, the identified native	
trees in the mine area may be	
encouraged for plantation. Tree	
species having small leaf	
area, dense hair on leaf surface (rough	
surface), deep channels on leaves	
should be included for plantation. (v)	
Vetiver plantation on inactive dumps	
may be encouraged as the grass	
species has high strength of anchoring	
 ,	<u> </u>

	besides medicinal value.(vi)Details of	
	compensatory afforestation done	
	should be recorded and documented	
	by respective forest divisions, and	
	State Forest Department should	
	present mine-wise annual status, along	
	with expenditure details.Responsibility:	
	Individual MineLease Holders and	
	State Forest & Wildlife Department.	
21)	Socio-Economic Related: Project	,
	Proponent shall implement the	Committee will be formed to solve
	following mitigation measures: (i)	the local problems and will act as a
	Public interaction should be done on	platform for regular consultation. This
	regular basis and social welfare	committee will also plan, review and
	activities should be doneto meet the	monitor the development initiatives.
	requirements of the local	
	communities.Further,basic amenities	A comprehensive social welfare
	and infrastructure facilities like	activity has been chalked out based
	education, medical,roads, safe	on Socio Economic Need
	drinking water, sanitation,	Assessment study of the project
	0	affected villages as detailed in EIA
	employment, skill development,	Report.
	training institute etc. should be	ii) The State Government has
	developed to alleviate the quality of	appointed recognized consultant for
	life of the people of the region.(ii)Land	undertaking Social Impact
	outees and land losers/affected	Assessment as per Odisha Right to
	people, if any, should be compensated	Fair Compensation and
	and rehabilitated as	Transparency in Land Acquisition
	perthenational/statepolicy on	and Rehabilitation and Resettlement
	Resettlement and Rehabilitation.	Rules 2015. The consultant has
	(iii)The socio-economic development	completed and submitted the study
	in the region should be focused and	report.
	aligned with the guidelines/initiatives	iii) ['] In line with the guidelines given in
	of Govt. of India/ NITI Aayog around	the above rules, project proponent
	prosperity, equality, justice, cleanliness, tr	has worked out compensation
		package of Rs 354.05 Lakhs as per
		ORRP 2006/ ORFCTLARR2016
	women, hope etc. This can be	provisions. There is no displacement
	achieved by providing adequate and	in the project. There are 8 plots of 4
	quality facilities for education, medical	land owners having 26 extended
	and developing skills in the people of	families will be affected and
	the region. District administration in	compensated as per Land
	association with mine lease holders	acquisition rules of the State Govt.
	should plan for "Samagra Vikas" of	Employment Although none of the
	these blocks well as other blocks of the	families are eligible for employment

	district. While planning for different schemes in the region, the activities should be prioritized as per Pradhan Mantri Khanij Kshetra Kalyan Yojna (PMKKKY), notified by Ministry of Mines,Govt. of India,vide letterno.16/7/2017-M.VI(Part), dated September 16, 2015.Responsibility:District Administration and Individual Mine Lease Holders.	as per the Act, but company propose one person from each land losing family will be given job based on their skill and qualification, for which provision for Skill Development training of training will be made. A budget of Rs. 31.20 lakhs (@ Rs. 5000/- per month for a trainee for 2 years course) has been provisioned. However, Project proponent will abide by the compensation package as worked out and finalised by District Authority. The programs proposed will be aligned with Government initiatives and prioritized with PMKKKY with DMFT, Sundargarh.
22)	Road Transport Related: Project Proponent shall implement the following mitigation measures:(i)All the mine lease holders should follow the suggested ore transport mode (SOTM), based on its EC capacity within next 5years. (ii)The mine lease holders should ensure construction of cement road of appropriate width from and to the entry and exit gate of the mine. Further, maintenance of all the roads should be carried out as per the requirement to ensure dust free road transport. (iii) Transportation of ore should bed one by covering the trucks with tarpaulin or other suitable mechanism so that no spillage of ore/dust takes place. Further, air quality in terms of dust,PM10 should be monitored near the roads towards entry & exitgate on regular basis, and be maintained within the acceptable limits. Responsibility: Individual Mine Lease Holders and Dept.of Steel&Mines.	 i)Project proponent will follow the suggested ore transport mode (SOTM). ii) Cement concrete road of 9m width inside the lease area to both Pit 1 and Pit 2 which is planned to serve as two way movement of vehicle. iii) Transportation of ore during road transportation will be done by covering the trucks with tarpaulin. AAQ monitoring including PM10 is bieng monitored regularly near the exit & entry gate on regular basis.
23)	Occupational Health Related: Project Proponent shall implement the	i) Personal Protective Equipment's (PPE) is being provided to the

following mitigation measures: (i)	workers & staffs along with
Personnel working in dusty areas	adequate training on regular basis to
should wear protective respiratory	educate and make them conscious.
devices and they should also be	ii)Occupational health surveillance
provided with adequate training and	will be carried out on annual basis. iii) All employees have undergone
information on safety and health	IME medicl examinations. A
aspects periodically. (ii)	dispensary with full time qualified
Occupational health surveillance	doctor is proposed for the purpose
program for all the	and maintaining the health records
employees/workers (including casual	of the worker.
workers) should be undertaken	
periodically (on annual basis)to	
observe any changes due to exposure	
to dust, and corrective measures	
should be taken immediately ,if	
needed. (iii) Occupational health	
and safety measures related	
awareness programs including	
identification of work related health	
hazard, training on malaria	
eradication, HIV and health effects on	
exposure to mineral dust etc., should	
be carried out for all the workers on	
regular basis. A fulltime qualified doctor should been engaged for the	
0	
purpose. Periodic monitoring (on 6 monthly basis) for exposure to	
respirable minerals dust on the	
workers should be conducted, and	
record should be maintained	
including health record of all the	
workers. Review of impact of various	
health measures undertaken (at an	
interval of 3 years or less)should be	
conducted followed by follow-up of	
actions, wherever required.	
Occupational health Centre should be	
established near mine site itself.	
Responsibility: Individual Mine Lease	
Holders and District Administration	
(District Medical Officer).	
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C. Standard conditions

I. Statutory compliances

SL. No.	STANDARD CONDITIONS	STATUS AS ON DATE / ACTION TAKEN
1)	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.	We will abide by the said condition.
2)	The Project proponent complies with all the statutory requirements and judgment of Hon'ble Supreme Court dated 2nd August, 2017 in Writ Petition(Civil) No.114 of 2014 in matter of Common Cause versus Union of India & Others before commencing the mining operations.	We are abiding by the said condition.
3)	The State Government concerned shall ensure that mining operation shall not be commenced till the entire compensation levied, if any, for illegal mining paid by the Project Proponent through the irrespective Department of Mining & Geology in strict compliance of Judgment of Hon'ble Supreme Court dated 2nd August, 2017 in Writ Petition(Civil) No.114 of 2014 in matter of Common Cause versus Union of India & Ors.	Not applicable as it is an auctioned mine and lease executed in 2021.
4)	This Environmental Clearance shall be come operational only after receiving formal NBWL Clearance from MoEF &	Not applicable to the project.

	CC subsequent to the recommendations of the Standing Committee of National Board for Wildlife, if applicable to the Project.	
5)	This Environmental Clearance shall be come operational only after receiving formal Forest Clearance (FC) under the provision of Forest Conservation Act, 1980, if applicable to the Project.	clearance vide File No.8-55/2018FC, dated 15.12.2020 under the provision of Forest
6)	Project Proponent (PP) shall obtain Consent to Operate after grant of EC and effectively implement all the conditions stipulated therein .The mining activity shall not commence prior to obtaining Consent to Establish/Consent to Operate from the concerned State Pollution Control Board/Committee	Consent to establish vide letter no. 459/IND- II-NOC-6124, dated: 11-01-2018 & consent to operate vide Consent Order No. 2955 and vide Letter No. 6004/IND-I-CON-6154,
7)	The PP shall adhere to the provision of the Mines Act, 1952, Mines and Mineral (Development & Regulation),Act,2015 and rules & regulations made there under. PP shall adhere to various circulars issued by Directorate General MinesSafety (DGMS) and Indian Bureau of Mines from time to time.	The project proponent will adhere to the
8)	The Project Proponent shall obtain consents from all the concerned land owners, before start of mining operations, as per the provisions of MMDR Act, 1957 and rules made there under	The project proponent has confined its operation within the surface right granted area only.

	inrespect of lands which are not owned by it.	
9)	The Project Proponent shall follow the mitigation measures provided in MoEFCC's Office Memorandum No.Z- 11013/57/2014-IA.II(M), dated 29th October, 2014, titled "Impact of mining activities on Habitations-Issues related to the mining Projects where in Habitations and villages are the part of mine lease areas or Habitations and villages are surrounded by the mine lease area".	Not applicable, if any it will be followed as per the gudielines.
10)	The Project Proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of surface water and from CGWA for withdrawal of ground water for the project.	The Project Proponent has obtained NOC for withdrawl of 3230 Cu.m/day quantity of ground water from CGWA for the project vide letter No.CGWA /NOC/ MIN/ ORIG/ 2018/3118 dated 07 Feb 2018. Copy enclosed as Annexure # 6 .
11)	A copy of EC letter will be marked to concerned Panchayat /local NGO etc. if any , from whom suggestion/ representation has been received while processing the proposal.	It has been complied with intimating the letters to local Gram Panchayat, Municipality, DDM Office, Zilla Parishad, Divisional Forest Officer etc
12)	State Pollution Control Board/Committee shall be responsible for display of this EC letter at its Regional office, District Industries Centre and Collector's office/ Tehsildar'sOffice for 30 days.	Its being complied by SPCB.
13)	The Project Authorities should widely advertise about the grant of this EC letter by printing the same in at least two local newspapers, one of which shall be in vernacular language of the concerned area.The advertisement shall	Project proponent has advertised in the two local newspapers, i.e. Prameya; Daily (vernacular language) and The New Indian Express – English daily within stipulated time period. A copy of the same has been submitted to the Regional Office of this Ministry located at Bhubaneswar vide letter AMNS/MIN/SAG/01/2019, dated 10.06.2019.

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	be done within 7 days of the issue of the clearance letter mentioning that the instant project has been accorded EC and copy of the EC letter is available with the State Pollution Control Board/Committee and web site of the Ministry of Environment, Forest and Climate Change (www.parivesh.nic.in).A copy of the advertisement may be forwarded to the concerned MoEFCC Regional Office for compliance and record.	Copy enclosed as Annexure # 7 .
14)	The Project Proponent shall inform the MoEF&CC for any change in ownership of the mining lease.In case there is any change in ownership or mining lease is transferred than mining operation shall only be carried out aftert ransfer of EC as perprovisions of thepara11 of EIA Notification,2006 as amended from time to time.	We will abide by the said condition.

II. Air quality monitoring and preservation

SL.	STANDARD CONDITIONS	STATUS AS ON DATE / ACTION TAKEN
No.		
15)	minimum of 3 (three) online Ambient Air Quality Monitoring Stations with 1 (one) in upwind and 2(two)in down wind direction based on long term climatological data about wind direction such that an angle of 120°is made between the monitoring locations	basis.The monitoring report reveals that the parameters like PM10.PM2.5,CO,SO2 and NOx are within the norm as per NAAQs
	to monitor critical parameters, relevant for mining operations, of	Installation of 3 (three)no.s of online
	air pollution	, , , , , , , , , , , , , , , , , , ,

	viz.PM10,PM2.5,NO2,CO and SO2 etc.as per the methodology mentioned in NAAQS Notification No.B-29016/20/90/PCI/I, dated 18.11.2009 covering the aspects of transportation and use of heavy machinery in the impact zone. The ambient air quality shall also be monitored at prominent places like office building, canteen etc. as per the site condition to ascertain the exposure characteristics at specific places. The above data shall be digitally displayed within 03 months in front of the main Gate of the mine site.	with 1 (one) in upwind and 2(two)in down wind direction has been processed based on long term climatological data about wind direction such that an angle of 120° is made between the monitoring locations to monitor critical parameters. Photo enclosed as Photo # 5 .
16)	Effective safeguard measures for prevention of dust generation and subsequent suppression(like regular water sprinkling, metalled road construction etc.)shall be carriedout in areas prone to air pollution where in high levels of PM10 and PM2.5 are evident such as haul road, loading and unloading point and transfer points. The Fugitive dust emissions from all sources shall be regularly controlled by installation of required equipments/ machineries and preventive maintenance. Use of suitable water-soluble chemical dust suppressing agents maybe explored for better effectiveness of dust control system. It shall been sured that air pollution level conform to the standards prescribed by the MoEFCC/Central PollutionControl Board.	mobile for crusher and screen plants are under progress.

III. Water quality monitoring and preservation

SL.	STANDARD CONDITIONS	STAT	ius as c	ON DAT	E / ACTION TAKEN	1
No.						
17)	In case, immediate mining scheme	As	per	the	hydrological	study

	envisages intersection of ground water table, then Environmental Clearance shall become operational only after receiving formal clearance from CGWA. In case, mining operation involves intersection of ground water table at a later stage, then PP shall ensure that prior approval from CGWA and MoEFCC is in place before such mining operations. The permission for intersection of ground water table shall essentially be based on detailed hydro- geological study of the area.	conducted the lowest working level is 520 mRL whereas the ground water table starts at 503 mRL. Therefore, mining operation will not intersect the ground water table. The Project Proponent has obtained NOC for withdrawl of 3230 Cu.m/day quantity of ground water from CGWA for the project vide letter No. CGWA/NOC/MIN/ORIG/2018/3118, dated 07 Feb 2018 as well as the Environment clearance for the project vide letter No. F. No. J-11015/192/2016- IA.II(M) dated 28th May 2020.
18)	Regular monitoring of the flow rate of the springs and perennial nallahs flowing in and around the mine lease shall be carried out and records maintain. The natural water bodies and or streams which are flowing in an around the village, should not be disturbed. The Water Table should be nurtured so as not to go down below the pre-mining period. In case of any water scarcity in the area, the Project Proponent has to provide water to the villagers for their use. A provision for regular monitoring of water table in open dug wall located in village should be incorporated to ascertain the impact of mining over ground water table. The Report on changes in Ground water level and quality shall be submitted on six-monthly basis to the Regional Office of the Ministry, CGWA and State Ground water Department/State Pollution Control Board.	
19)	Project Proponent shall regularly	We are conducting ground water
	monitor and maintain records w.r.t. ground water level and quality in and around the mine lease by	quality and level on regular basis by M/s ITC Pvt. Ltd. which is a NABL accredited one. The monitoring report

	wells as well as new piezo-meter installations during the mining operation in consultation with Central Ground Water Authority/State Ground Water Department. The Report on changes in Ground water level and quality shall be submitted on six-monthly basis to the Regional Office of the Ministry, CGWA and State Ground water Department, State Pollution Control Board.	
20)	The Project Proponent shall	C C
	undertake regular monitoring of natural water course/ water	quality monitoring on regular basis by M/s ITC Pvt. Ltd.
	resources/springs and perennial	Further, no perennial nalla / stream
	nallahs existing/flowing in and	passes through the Mining Lease area.
	around the mine lease and	
	maintain its records. The project	
	proponent shall undertake regular	
	monitoring of water quality up stream and down stream of water	
	bodies passing within and	
	nearby/adjacent to the mine	
	lease and maintain its records.	
	Sufficient number of gullies shall be	
	provided at appropriate places	
	within the lease for management	
	of water. PP shall carry out regular monitoring w.r.t. pH and included	
	the same in monitoring plan. The	
	parameters to be monitored shall	
	include their water quality vis- a-vis	
	suitability for usage as per CPCB	
	criteria and flow rate. Its hall been	
	sured that no obstruction and/or alteration be made to water	
	bodies during mining operations	
	without justification and prior	
	approval of MoEFCC. The	
	monitoring of water courses/	
	bodies existing in lease area shall	
	be carried out four times in a year viz. pre-monsoon (April-	
	viz. pre-monsoon (April- May),monsoon (August),post-	
L		

	monsoon(November)and winter (January) and the record of monitored data may be sent regularly to Ministry of Environment, Forest and Climate Change and its Regional Office, Central Ground Water Authority and Regional Director,Central Ground Water Board,State Pollution Control Board and Central Pollution Control Board. Clearly showing the trend analysis on six-monthly basis.	
21)	Quality of polluted water generated from mining operations which include Chemical Oxygen Demand (COD) in mines run- off; acid mine drainage and metal contamination in run off shall be monitored along with Total Suspended Solids(TDS), Dissolved Oxygen(DO),pH and Total Suspended Solids(TSS).The monitored data shall be uploaded on the website of the company as well as displayed at the project site in public domain,on a display board,at a suitable location near the main gate of the Company.Thecircular No.J- 20012/1/2006-IA.II(M) dated 27.05.2009 issued by Ministry of Environment, Forestand Climate Change may also be referred in this regard.	As such no polluted water shall be generated from mine activities. However, the Project proponent has engaged NABL accredited and MoEF&CC certified agency named M/s ITC Pvt. Ltd. for the analysis of water quality as applicable and parameters as stated in the conditions. The monitored data will be uploaded on the website of the company as well as displayed at the project site in public domain,on a display board,at a suitable location near the main gate of the Company.
22)	Project Proponent shall plan, develop and implement rain water harvesting measures on long term basis to augment ground water resources in the area in consultation with Central Ground Water Board/ State Ground water Department. A report on amount of water recharged needs to be submitted to Regional Office MoEFCC annually.	In this regard project proponent has engaged and prepared a detail study report in consultation with Regional Director, CGWB, and Bhubaneswar to provide Check weirs, check dams, de- silting cum percolation ponds/pits at the strategic locations of the mines lease area. However, suitable rain water harvesting measures like settling pits, check weir, check dams along with roof top rain Water harvesting

		Structures for the mines; camp and office area will be implemented in due course of mining pit development.
23)	Industrial waste water (work shop and waste water from the mine) should be properly collected and treated so as to conform to the notified standards prescribed from time to time. The standards shall be prescribed through Consent to Operate (CTO) issued by concerned State Pollution Control Board (SPCB). The work shop effluent shall be treated after its initial passage through Oil and grease trap.	There will be no industrial waste water discharge from the mine. Presently mining is at initial stage. Permanent workshop and Site specific ETP(Oil and grease trap) cum Workshop Service center work is under progress for proper collection and treatment of work shop effluents. The discharge water quality shall be conducted through NABL accredited and MoEF&CC certified agency named M/s ITC Pvt. Ltd. through M/s Qualitek Labs Pvt. Ltd, Bhubaneswar,Odisha.
24)	The water balance/water auditing shall be carried out and measure for reducing the consumption of water shall be taken up and reported to the Regional Office of the MoEF&Cc and State Pollution Control Board/Committee.	Water balance chart has been prepared by the Project proponent and actions will carried out for reducing the consumption.

$\ensuremath{\mathsf{IV}}\xspace.$ Noise and vibration monitoring and prevention

SL. No.	STANDARD CONDITIONS	STATUS AS ON DATE / ACTION TAKEN
25)	The peak particle velocity at 500 m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS guidelines.	The peak particle velocity at 500 m distance or within the nearest habitation, is bieng monitored periodically as per applicable DGMS guidelines.
26)	The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the flood lights/ masks	limit during night as revealed from the monitored data. The illumination is directed away from the nearby village sites so that it will not affect the

	away from the villagers and keeping the noise levels well within the prescribed limits for day/night hours.	
27)	The Project Proponent shall take measures for control of noise levels below 85 dBA in the work environment. The workers engaged in operations of HEMM, etc. should be provided with ear plugs /muffs. All personnel including laborers working industry areas shall be provided with protective respiratory devices along with adequate training, awareness and information on safety and health aspects. The PP shall be held responsible in case it has been found that workers/personals/laborers are working without personal protective equipment.	this, acoustic enclosure for all machine operating cabins are provided. It is being monitored by Noise Level Meter; the results reveals very well within norms. Apart from that adequate training on safety and Health aspects is being

\vee . Mining plan

SL. No.	STANDARD CONDITIONS	STATUS AS ON DATE / ACTION TAKEN
28)	The Project Proponent shall adhere to the working parameters of mining plan which was submitted at the time of EC appraisal where in year-wise plan was mentioned for total excavation i.e. quantum of mineral, waste, overburden, inter burden and topsoil etc No change in basic mining proposal like mining technology, total excavation, mineral & waste production, lease area and scope of working (viz. method of mining, overburden & dump management, O.B & dump mining, mineral transportation mode, ultimate depth of mining etc.)shall not be carried out without prior approval of the Ministry of	All mining activities are carried out in accordance with approved mining plan complying the EC conditions.

	Environment, Forest and Climate Change, which entail adverse environmental impacts, even if it is a part of approved mining plan modified after grant of EC or granted by State Govt. in the form to Short Term Permit (STP), Query license or any other name.	
29)	The Project Proponent shall get the Final Mine Closure Plan along with Financial Assurance approved from Indian Bureau of Mines/Department of Mining & Geology as required under the Provision of the MMDR Act, 1957 and Rules/ Guidelines made there under. A copy of approved final mine closure plan shall be submitted within 2 months of the approval of the same from the competent authority to the concerned Regional Office of the Ministry of Environment, Forest and Climate Change for record and verification.	Presently mining is at an initial stage. A copy of approved the Final Mine Closure Plan along with Financial Assurance as approved from Indian Bureau of Mines/Department of Mining & Geology shall be submitted within 2 months of the approval to the Regional Office of the Ministry of Environment, Forest and Climate Change, Bhubaneswar for record and verification.
30)	The land-use of the mine lease area at various stages of mining scheme as well as at the end-of- life shall be governed as per the approved Mining Plan. The excavation vis-a-vis backfilling in the mine lease area and corresponding afforestation to be raised in the reclaimed area shall be governed as per approved mining plan. PP shall ensure the monitoring and management of rehabilitated areas until the vegetation becomes self- sustaining. The compliance status shall be submitted half-yearly to the MoEF & CC and its concerned Regional Office.	mine lease area are and corresponding afforestation in the reclaimed area will be carried out in line with approved mine Plan. The compliance status will be submitted to the concerned

VI. Land reclamation

SL. No.	STANDARD CONDITIONS	STATUS AS ON DATE / ACTION TAKEN
31)	The Overburden (O.B.) generated during the mining operations shall be stacked at earmarked OB dump site(s) only and it should not be kept active for a long period of time. The physical parameters of the OB dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines /circulars issued by D.G.M.S w.r.t .safety in mining operations shall be strictly adhered to maintain the stability of top soil/OB dumps. The topsoil shall be used for land reclamation and plantation.	The only OB/waste dumps is being properly terraced at the earmarked place by maintaining adequate slope & height as per the approved Mining Plan as per the guidelines /circulars issued by D.G.M.S w.r.t. safety in mining operations and will be scientifically vegetated along the slope to stabilize the same. The generated top soil during the mining operation is being stored in an ear- marked area and necessary precaution will be taken to preserve its nutrient values so that it will be used for land reclamation and raising plantations.
32)	The reject/waste generated during the mining operations shall be stacked at earmarked waste dump site(s) only. The physical parameters of the waste dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by DGMS w.r.t. Safety in mining operations shall be strictly adhered to maintain the stability of waste dumps.	The only OB/waste dumps is being properly terraced at the earmarked place by maintaining the adequate slope & height as per the approved Mining Plan as per the guidelines /circulars issued by D.G.M.S w.r.t .safety in mining operations and will be scientifically vegetated along the slope to stabilize the same.
33)	The reclamation of waste dump sites shall be done in scientific manner as per the Approved Mining Plan cum Progressive Mine Closure Plan.	Project Proponent will reclaim the waste dump sites scientifically as per the approved mining plan by the application of native grass seeds, seedlings and geotextiles, etc. along with the provision of garland drain, retaining wall followed by settling pits.
34)	The slope of dumps shall be vegetated in scientific manner	Presently, 01no of active OB/waste dump is being properly terraced by

	with suitable native species to maintain the slope stability, prevent erosion and surface run off. The selection of local species regulates local climatic parameters and help in adaptation of plant species to the micro climate. The gullies formed on slopes should be adequately taken care of as it impacts the overall stability of dumps. The dump mass should be consolidated with the help of dozer/compactors there by ensuring proper filling/leveling of dump mass. In critical areas, use of geo textiles/geo-membranes, clay liners/Bentonite etc. shall be undertaken for stabilization of the dump.	maintaining the adequate slope & height through the application of dozer regularly. Further, the dumps will be scientifically vegetated with application of native local species applications along the slope to stabilize it. To reduce the wash off, geotextiles/geo-membranes applications will also be made over the dump slope.
35)	The Project Proponent shall carry out slope stability study in case the	Presently mining is at an initial stage and OB/waste dumping is under
	dump height is more than 30 meters. The slope stability report shall be submitted to concerned regional office of MoEF&CC.	progress. As per the approved mining plan the dump height shall be maintained. So no sloe stability study is required.
36)	Catch drains, settling tanks and siltation ponds of appropriate size shall be constructed around the mine working, mineral yards and Top Soil/OB/Waste dumps to prevent run off of water and flow of sediments directly into the water bodies (Nallah/River/Pond etc.).The collected water should be utilized for watering the mine area, roads , green belt development, plantation etc. The drains/sedimentation sumps etc. shall be de-silted regularly, particularly after monsoon season, and maintained properly.	Project proponent has planned construction of Check dam in south pit area after opening of the Pit on natural depression area to prevent storm run-off and sediment flow into adjoining water bodies. A safety margin of 50% shall be kept for designing of sump structures over and above peak rainfall. However, in north pit active dump area 02 no.s of the sedimentation pits/sumps shall be constructed at the corners of the garland drains.
37)	Check dams of appropriate size, gradient and length shall be	Project proponent has planned construction of check dam in
	constructed around mine pit and OB dumps to prevent storm run-off	strategic areas to prevent storm run- off and sediment flow into adjoining

	and sediment flow into adjoining water bodies. A safety margin of 50% shall be kept for designing of sump structures over and above peak rainfall (basedon50 years data) and maximum discharge in the mine and its adjoining area which shall also help in providing adequate retention time period there by allowing proper settling of sediments/silt material. The sedimentation pits/sumps shall be constructed at the corners of the garland drains.	water bodies. A safety margin of 50% shall be kept for designing of sump structures over and above peak rainfall. However, in the active dump area, 02 no.s of the sedimentation pits/sumps shall be constructed at the corners of the garland drains.
38)	The topsoil, if any, shall temporarily be stored at earmarked site(s) within the mine lease only and should not be kept unutilized for long. The physical parameters of the top soil dumps like height, width and angle of slope shall be governed as per the approved Mining Plan and as per the guidelines framed by DGMS w.r.t. Safety in mining operations shall be strictly adhered to maintain the stability of dumps. The top soil shall be used for land reclamation and plantation purpose.	Top soil will be stacked near ML pillar no.04 maintaining the physical parameters of the top soil dumps like height, width and angle of slope shall be governed as per the approved Mining Plan. The top soil shall be subsequently used for land reclamation and green belt development purpose. Adequate precautionary measures shall be taken to preserve the nutrient contents.

VII. Transportation

SL. No.	STANDARD CONDITIONS	STATUS AS ON DATE / ACTION TAKEN
39)	No Transportation of the	We will abide by the said condition.
	minerals shall be allowed in	
	case of roads passing	
	through villages/ habitations.	
	In such cases, PP shall	
	construct a 'by pass' road	
	for the purpose of	
	transportation of the minerals	
	leaving an adequate gap	
	(say at least 200 meters) so	
	that the adverse impact of	
	sound and dust along with	
	chances of accidents could	

	be mitigated. All costs resulting from widening and strengthening of existing public road network shall be borne by the PP in consultation with nodal State Govt. Department. Transportation of minerals through road movement in case of existing village/rural roads shall be allowed in consultation with nodal State Govt. Department only after required strengthening such that the carrying capacity of roads is increased to handle the traffic load. The pollution due to transportation load on the environment will be effectively controlled and water sprinkling will also be done regularly. Vehicular emissions shall be kept under control and regularly monitored. Project should obtain Pollution Under Control (PUC) certificate for all the vehicles from authorized pollution testing	
40)	centers.The Main haulage road withinthe mine lease should beprovided with a permanentwater sprinkling arrangementfor dust suppression. Otherroads within the mine leaseshould be wetted regularlywithtanker-mountedwatersprinklingsystem.Theotherareasofdustgenerationlikecrushingzone,materialtransferpoints,materialyardsetc.shouldinvariablybeprovidedwithdustsuppressionarrangements.The	Regular water sprinkling is being carried out by engaging 02 nos. of mobile water tankers (01 nos. 16 KL, 01 no. 08 KL) at haul road, loading and unloading point and transfer points & around the processing plants and other strategic dust generating areas including the mines haul and mineral dispatch roads. Apart from that auto fixed water sprinkling arrangement of 1.20 KM length shall be provided for mineral dispatch roads. Further, dry fogging along with hoods over conveyor belts is provided for crusher and screen plants.

pollution control equipment like bag filters, vacuur suction hoods, dry foggin system etc. shall be installe at Crushers, belt-conveyo and other areas prone to a pollution. The belt conveyo should be fully covered t avoid generation of dur while transportation. PP sho take necessary measures t avoid generation of fugitiv dust emissions.	
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VIII. Green Belt

SL. No.	STANDARD CONDITIONS	STATUS AS ON DATE / ACTION TAKEN
41)	The Project Proponent shall develop green belt in 7.5 m wide safety zone all along the mine lease boundary as per the guidelines of CPCB in order to arrest pollution emanating from mining operations within the lease. The whole Green belts shall be developed within first 5 years starting from wind ward side of the active mining area. The development of green belt shall be governed as per the EC granted by the Ministry irrespective of the stipulation made in approved mine plan.	The green belt has been developed along the safety zone. In this regard the project proponent has planted 7134 nos. of native saplings within the boundary Safety zone of the ML as well as 375 No.s outside the ML area (Camp /surrounding & premises) during the reporting period 2021-22 as per the guidelines of local forest department.
42)	The Project Proponent shall carry out plantation/ afforestation in backfilled and reclaimed area of mining lease, around water body, along the road sides, in community areas etc. by planting the native species in consultation with the State Forest Department/Agriculture	The mine operation is at an initial stage. Project proponent will carry out plantation in backfilled and reclaimed area of mining lease, around water body, along the road sides, in community areas etc. by planting the selected native species useful to the local people adhering the CPCB guidelines in this respect and in consultation with concerned govt. agencies as stated.

43)	Department/Rural development department/Tribal Welfare Department/Gram Panchayat such that only those species be selected which are of use to the local people. The CPCB guidelines in this respect shall also be adhered. The density of the trees should be around 2500 saplings per Hectare. Adequate budgetary provisions hall be made for protection and care of trees. The Project Proponent shall make necessary alternative arrangements for livestock feed by developing grazing land with a view to compensate those areas which are coming within the mine lease. The development of such grazing land shall be done in consultation with the State Government. In this regard, Project Proponent should essentially implement the directions of the Hon'ble Supreme Court with regard to acquisition of grazing land. The sparse trees on such grazing ground, which provide mid-day shelter from the scorching sun, should be scrupulously guarded/protected against felling and plantation of such	We will abide by the said condition.
	trees should be promoted.	
44)	The Project Proponent shall under take all precautionary measures for conservation and protection of endangered flora and fauna and Schedule-I species during mining operation. A	Site specific Wildlife conservation Plan got approved by PCCF Wildlife and Chief Wildlife Warden ,Bhubaneswar. As per the plan no Schedule – I species found in the buffer zone area.

	Wildlife Conservation Plan shall be prepared for the same clearly delineating action to be taken for conservation of flora and fauna. The Plan shall be approved by Chief Wildlife Warden of the State Govt.	
45)	And implemented in consultation with the State Forest and Wildlife Department. A copy of Wildlife Conservation Plan and its implementation status (annual) shall be submitted to the Regional Office of the Ministry.	Implementation status (annual) on wildlife conservation Plan shall be submitted to the Regional office of the Ministry.

IX. Public hearing and human health issues

SL. No.	STANDARD CONDITIONS	STATUS AS ON DATE / ACTION TAKEN				
46)	The Project Proponent shall appoint an Occupational Health Specialist for Regular as well as Periodical medical examination of the workers engaged in the mining activities, as per the DGMS guidelines. The records shall be maintained properly. PP shall also carry out Occupational health check-ups in respect of workers which are having ailments like BP, diabetes, habitual smoking, etc. The check-up shall be under taken once in six months and necessary remedial/preventive measures be taken. A status report on the same may be sent to MoEFCC Regional Office and DGMS on half-yearly basis.	Initial Medical Examination of the workers engaged in the project is being undertaken under the authourised doctors. This is being carried as per in compliance to Mines Act 1952 & rules 1956 and amendments there to. During the period of April-2021 to Sep- 2021,a total of 110 no employees have undergone IME examinations.				
47)	The Project Proponent must demonstrate commitment to work towards 'Zero Harm' from their mining activities and carry out Health Risk Assessment (HRA) for	The Project Proponent has taken measures for health Risk Assessment(HRA) for identification of workplace hazards and assess their potential risks to health and				

	identification work place hazards and assess their potential risks to health and determine appropriate control measures to protect the health and wellbeing of workers and nearby community. The proponent shall maintain accurate and systematic records of the Harte HRA for neighborhood has to focus on Public Health Problems like Malaria, Tuberculosis, HIV, Anaemia, Diarrhoeain children under five, respiratory infections due to bio mass cooking. The proponent shall also create awareness and educate the nearby community and workers for Sanitation, Personal Hygiene, Hand washing, notto defecate in open, Women Health and Hygiene (Providing Sanitary Napkins), hazardof tobacco and alcohol use. The Proponent shall carry out base line HRA for all the category of workers and there after every five years.	determine appropriate control measures to protect the health and wellbeing of workers and nearby community. The company will also maintain accurate and systematic records of the HRA and all the tests being carried out.
48)	The Proponent shall carry out Occupational health surveillance which be a part of HRA and include Biological Monitoring	The Project Proponent is committed to work towards 'Zero Harm' from their mining activities and will carry out Health Risk Assessment (HRA) for identification workplace hazards and assess their potential risks to health and determine appropriate control measures to protect the health and wellbeing of workers and nearby community. The company will also maintain accurate and systematic records of the HRA and all the tests being carried out.

	accredited by NASH. Records of	
	Health Surveillance must be kept for 30 years, including the results of	
	and the records of Physical examination and tests. The record	
	of exposure due to materials like	
	Asbestos, Hard Rock Mining,	
	Silica,Gold, Kaolin, Aluminium, Iron, Manganese, Chromium, Lead,	
	Uranium need to be handed over	
	to the Mining Department of the	
	State in case the life of the mine is	
	less than 30 years. It would be obligatory for the State Mines	
	Departments to make	
	arrangements for the safe and	
	secure storage of the records including X-Ray. Only conventional	
	X-Ray will be accepted for record	
	purposes and not the digital	
	one).X-Ray must meet ILO criteria (17x14 inches and of good	
	quality).	
49)	The Proponent shall maintaine a	This will be done and records will be
	record of performance indicators	maintained.
	for workers which includes(a)there should not be as significant	
	decline in their Body Mass Index	
	and it should stay between 18.5-	
	24.9, (b)the Final Chest X-Ray compared with the base line X-Ray	
	should not show any capacities, (c)	
	At the end of their leaving job	
	there should be no Diminutionin	
	their Lung Functions Forced Expiratory Volume in one	
	second(FEV1),Forced Vital	
	Capacity (FVC),and	
	theratio)unless they are smokers	
	theratio)unless they are smokers which has to be adjusted, and the effect of age, (d) their hearing should not be affected. As a proof	
	theratio)unless they are smokers which has to be adjusted, and the effect of age, (d) their hearing should not be affected. As a proof an Audiogram (first and last	
	theratio)unless they are smokers which has to be adjusted, and the effect of age, (d) their hearing should not be affected. As a proof	

	and the movement of their Hip, Knee and other joints should have normal range of movement, (f)they should not have suffered loss of any body part. The record of the sames hould be submitted to the Regional Office, MoEFCC annually along with details of therelief and compensation paid to workers having above indications.	
50)	The Project Proponent shall ensure that Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.	Workers engaged in different mining Operations are provided with protective respiratory devices i.e. Nose Mask, Ear Plugs, Ear Muffs etc Regular sprinkling is being carried in and around work place areas. Apart from that adequate training on safety and Health aspects is being imparted on daily basis among all the employees.
51)	Project Proponent shall make provision for the housing for workers/labors or shall construct labor camps within/outside(company owned land)with necessary basic infrastructure/ facilities like fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical healthcare, creche for kids etc. The housing may be provided in the form of temporary structures which can be removed after the completion of the project related infrastructure. The domestic waste waters hould be treated with STP in order to avoid contamination of underground water.	Project Proponent has constructed temporary worker camps outside(rented land)the mine lease area with necessary basic infrastructure/ facilities like toilets, STP, safe drinking water, medical healthcare, etc. The housing is made purely of temporary structures which can be removed after the completion of the project. The domestic waste waters is being treated with STP of 80 KL capacity in order to avoid contamination of underground water. Photo# 6 .
52)	The activities proposed in Action plan prepared for addressing the issues raised during the Public Hearing shall be completed as per the budgetary provisions mentioned in the Action Plan and within the stipulated time frame.	The project proponent is committed towards the implementation of activities proposed in Action plan prepared for addressing the issues raised during the Public Hearing and shall be completed as per the budgetary provisions mentioned in

The	Status	Report	on	the	Actio	n Plar	n and	withi	n t	he
implem	nentation	of Action	Plan	stipu	ulated	time	frame.	The	Sta	tus
shall	be sub	mitted to	the	Rep	ort on	impler	nentati	on of	Acti	on
conce	rned Regio	onal Office	of the	Plan	shall	be	submitt	ed to	o t	he
Ministry	[,] along	with	District	con	cerned	Regio	onal Ot	ffice of	of t	he
Admini	stration			Minis	stry	along	wit	'n	Distr	ict
				Adm	ninistrat	ion				

X. Corporate Environment Responsibility (CER)

SL. No.	STANDARD CONDITIONS	STATUS AS ON DATE / ACTION TAKEN
53)	The activities and budget	The activities proposed for CER
00,	earmarked for Corporate	will be implemented in a time bound
	Environmental Responsibility	manner and annual report of
	(CER) as per Ministry's O.M No	implementation of the same will be
	22-65/2017-A. II (M) dated	submitted to Regional Office
	01.05.2018 or as proposed by	MoEF&CC.
	EAC should be kept in a	
	separate bank account. The	
	activities proposed for CER	
	shall be implemented in a time	
	bound manner and annual	
	report of implementation of	
	the same along with	
	documentary proof viz.	
	Photographs, purchase	
	documents, latitude &	
	longitude of infrastructure	
	developed & road	
	constructed needs to be	
	submitted to Regional Office	
	MoEF &CC annually along with	
	audited statement.	
54)	Project Proponent shall keep	The Project proponent shall not divert
	the funds earmarked for	the fund earmarked for environmental
	environmental protection	protection. The fund earmarked for
	measures in a separate	environmental protection measures
	account and refrain from	shall be utilized for the said purpose
	diverting the same for other	only. The Year wise expenditure of
	purposes. The Year wise	such funds will be reported to the
	expenditure of such funds	MoEF&CC and its concerned
	should be reported to the	Regional Office on regular basis.
	MoEFCC and its concerned	Details of expnses enclosed as
	Regional Office.	Annexure # 8 .

XI. Miscellaneous

SL. No.	STANDARD CONDITIONS	STATUS AS ON DATE / ACTION TAKEN
55)	The Project Proponent shall prepare digital map(land use & land cover)of the entire lease area once in five years purpose of monitoring land use pattern and submit a report to concerned Regional Office of the MoEF&CC.	Digital processing of the entire lease area using remote sensing technique will be done regularly in 5 years for monitoring the land use pattern and the same will carried out by ORSAC or any agency of national repute or by an empanelled agency of ORSAC at the cost of the project proponent.
56)	The Project Authorities should inform to the Regional Office regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.	We will abide by the said condition.
57)	The Project Proponent shall submit six monthly compliance reports on the status of the implementation of the stipulated environmental safeguards to the MOEFCC & its concerned Regional Office, Central Pollution Control Board and State Pollution Control Board.	We are submitting our first six monthly compliance reports on the status of the implementation of the stipulated environmental safeguards to the MOEFCC & its concerned Regional Office, Central Pollution Control Board and State Pollution Control Board.
58)	A separate 'Environmental Management Cell' with suitable qualified manpower should be set-up under the control of a Senior Executive. The Senior Executive shall directly report to Head of the Organization. Adequate number of qualified Environmental Scientists and Mining Engineers shall be appointed and submit a report to RO ,MoEFCC.	We have established an Environmental Cell headed by the Head- of Mining Technical Services to look after the implementation of the various pollution control measures and other Environment Management System requirements who is reporting to the Head of the Organization.

59)	The concerned Regional Office of the MoEFCC shall randomly monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the MoEFCC officer(s)by furnishing the requisite datal information/monitoring reports.	The project proponent shall extend full cooperation to the MoEFCC officer(s)by furnishing the requisite data information/monitoring reports while monitoring the compliance of the stipulated conditions by the concerned regional Officials.
60)	In pursuant to Ministry's O.MNo22-34/2018-IA.III dated 16.01.2020 to comply with the direction made by Hon'ble Supreme Court on 8.01.2020inW.P.(Civil)No 114/ 2014 in the matter Common Cause vs Union of India, the mining lease holder shall after ceasing mining operations, under take re-grassing the mining area and any other area which may have been disturbed due to other mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.	The project proponent shall abide by the condition.

D. Standard EC conditions for Mineral Beneficiation Plants: I. Statutory compliance:

SL. No.	STANDARD CONDITIONS	STATUS AS ON DATE / ACTION TAKEN
1)	The project proponent shall obtain	The project has obtained Stage-II
	forest clearance under the	Forest clearance vide File No.8-
	provisions of Forest (Conservation)	55/2018FC, dated 15.12.2020 for
	Act, 1986, in case of the diversion	the forest land involved in the
	of forest land for non-forest	project towards the accessing the
	purpose involved in the project.	forest land for applicable activities
		as approved.
2)	The project proponent shall obtain	Not applicable to the project.
	clearance from the National Board	
	for Wildlife, if applicable.	
3)	The project proponent shall	Site specific wildlife conservation
	prepare Site-Specific Conservation	plan got approved by PCCF
	Plan & Wildlife Management Plan	Wildlife and chief wildlife Warden,
	and approved by the Chief Wildlife	Bhubaneswar with an estimated

	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).	cost of Rs1257Lakh of which Rs. 348.770 lakh has been earmarked for implementation of plan within the mine lease area and Rs. 908.240 Lakhs has been earmarked for implementation of plan within the buffer zone (ZOI).No such specie has been reported in the core zone as per Wild life Management study conducted over the area. Rs.100.00 lakhs will be specifically spent towards the Conservation of Schedule-I species.
4)	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.	Project Proponent (PP) has obtained Consent to establish & consent to operate for extraction of 7.16 Million TPA iron ore (ROM) production from the OSPCB, Bhubaneswar, Odisha which also includes installation of 1x1350 TPH stationary crushing & Screening plant and 2x500 TPH mobile crushing & Screening Plants, vide Consent Order No. 2955 and vide Letter No. 6004/IND-I-CON-6154 dated 12-04-2021. However at the time of installation of Iron Ore BF plant, consent to operate will be obtained for the same.
5)	The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water from the competent authority concerned in case of drawl of surface water required for the project.	The Project Proponent has obtained NOC for withdrawl of 3230 Cu.m/day quantity of ground water from CGWA for the project vide letter No. CGWA/NOC/MIN/ORIG/2018/3118 dated 07 Feb 2018 as well as the Environment clearance for the project vide letter No. F. No. J- 11015/192/2016-IA.II(M) dated 28th May 2020.
6)	The project proponent shall obtain authorization under the Hazardous and other Waste Management Rules, 2016 as amended from time	The project is in initial stage. The workshop and its allied infrastructures are also in ground state. The project has appllied for

to time.	authorization under the Hazardous
	and other Waste Management
	Rules, 2016 shall be made to
	obtain the same.

II. Air quality monitoring and preservation

SL. No.	STANDARD CONDITIONS	STATUS AS ON DATE / ACTION TAKEN
7)	The project proponent shall install 24x7 continuous emission monitoring 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 recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories. Monitor fugitive emissions in the plant premises.	Out of three Continuous Ambient Air Quality monitoring Stations(CAAQN/IS), one no. of CAAQMS with data transfer facility to SPCB server has been established in core zone. The locations of these stations are decided in consultation with the Regional Officer State Pollution Control Board, based on metrological data, topographical features and environmentally and ecologically sensitive targets. Till installation of all CAQQMS, manual ambient air quality monitoring is being carried out.
8)	The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through labs recognised under Environment (Protection)Act, 1986.	The Project proponent has engaged NABL accredited and MoEF&CC certified agency named M/s ITC lab pvt. Ltd. through M/s Qualitek labs Pvt. Ltd, Bhubaneswar,Odisha to monitor fugitive emissions in the mine premises on regular basis as stated
9)	The project proponent shall install system to carry out Continuous Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g.PM10 and PM,sinreference to PM emission,and SO,and NOx inreference to SO,and NOx emissions) within and outside the plant area at least at four	Air Quality monitoring

10)	locations (one within and three outside the plant area at anangle of 120'each), covering up wind and down wind directions. 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	features and environmentally and ecologically sensitive targets. Till installation of all CAQQMS, manual ambient air quality monitoring is being carried out. Not applicable for the project.
	SPCB along with six-monthly monitoring report.	
11)	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.	Regular water sprinkling is being carried out engaging water sprinkling tankers for the fugitive dust suppression on haul roads. Appropriate air pollution control system (APC) are provided in the form of dry fog system for processing plants. Fixed sprinkler for the permanent hauling road and truck tyre washing system for the dispatch vehicles, etc. as applicable to all the dust generating points will be provided to comply prescribed stack emission and fugitive emission standards.
12)	The project proponent use leak proof trucks/dumpers carrying ore and other raw materials and cover them with tarpaulin.	As per the standard practice the vehicles carrying loaded materials shall be fully covered with tarpaulins to prevent the spillage of mineral on transportation road.
13)	Wind shelter fence and chemical spraying shall be provided on the raw material stock piles.	Not applicable for the project.
14)	Design the ventilation system for adequate air changes as per ACGIH document for all tunnels, motor houses, Oil Cellars.	Not applicable as it is an open cast mining activities.

III. Water quality monitoring and preservation

SL. No.	STANDARD CONDITIONS	STATUS AS ON DATE / ACTION TAKEN
15)	The project proponent shall install 24x7 continuous effluent monitoring system 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 recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.	There is no scope of huge quantity of effluents generation from the mines for which the installation of the same shall be required. Instead, propoject proponent will construct ETP(oil & grease trap pit) for the treatment of effluents generated from workshop, etcThe water quality shall be analysed through NABL accredited laboratories to conform the prescribed standard before discharge to outside.
16)	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 recognised under Environment (Protection) Act, 1986 and NABL accredited laboratories.	The ground water quality is being monitored by the project proponent through the recognised under Environment (Protection) Act, 1986 and NABL accredited Laboratory/agency M/s ITC Pvt. Ltd. through M/s Qualitek laboratory Pvt. Ltd.,Bhubaneswar as prescribed in the condition.
17)	The project proponent shall submit monthly summary report of continuous effluent monitoring and results of manual effluent testing and manual monitoring of ground water quality to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.	Not applicable for the project
18)	The project proponent shall provide the slime disposal facility with impervious lining and collection wells for	with impervious lining and

	seepage. The water collected from the slime pond shall be treated and recycled.	water collected from the slime pond shall be treated and recycled as per the approved
19)	Adhere to' Zero Liquid Discharge'	EIA/EMP plan. The project will adopt the Zero liquid discharge for ground contamibation.
20)	Sewage Treatment Plant shall be provided for treatment of domestic waste water to meet the prescribed standards.	Sewage Treatment Plant of 80 KL capacity has already been provided for treatment of domestic waste water at the camp area to meet the prescribed standards. The water quality is being monitored by the project proponent through the recognised under Environment (Protection) Act, 1986 and NABL accredited Laboratory/agency M/s ITC Pvt. Ltd. through M/s Qualitek laboratory Pvt. Ltd., Bhubaneswar.
21)	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.	Garland drains, retaining wall will be constructed at the bottom of the OB dump followed by the settling pits (collection pits) 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.
22)	The project proponent shall practice rain water harvesting to maximum possible extent.	Project proponent will implement roof top rain water harvesting measures at the office and camp area as per the approved mining plan.
23)	The project proponent shall make efforts to minimise water consumption in the steel plant complex by segregation of used water, practicing cascade use and by recycling treated water.	As The project is a mining operation, still the project proponent will make efforts to minimise water consumption in all walks of the operation.

IV . Noise monitoring and preservation

SL. No.	standard conditions					STATUS AS ON DATE / ACTION TAKEN
24)	Noise	level	survey	shall	be	Noise level is being monitored by

	guidelines and report in this	monitoring result shall be submitted to Regional Officer of the Ministry
25)	conform to the standards prescribed under E (P) A Rules,	Noise level is being monitored by Noise Level Meter as per the prescribed guidelines.The monitoring report reveals that the result is well within norms.

V. Energy Conservation measures

SL. No.	STANDARD CONDITIONS	STATUS AS ON DATE / ACTION TAKEN
25)	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.	shall be produced through the solar power generation on roof tops of office containers. The same shall be provided for solar light
26)	Provide LED lights in their offices and residential areas.	LED lights are being utilised in project office and camp area for illumination.

VI. Waste management

SL. No.	STANDARD CONDITIONS	STATUS AS ON DATE / ACTION TAKEN
27)	The waste oil, grease and other	There will be minimum generation
	hazardous waste shall be	of Hazardous Wastes except in field
	disposed of as per the	machinery maintenance
	Hazardous & Other waste	· · · · · · · · · · · · · · · · · · ·
	(Management & Transboundary	
	Movement) Rules, 2016.	measures as per guideline provided
		under "Hazardous waste
		Management Rule 2016".
28)	Kitchen waste shall be	Kitchen waste from camp canteen
	composted or converted to bio	shall be composted or converted
	gas for further use. (to be	to bio gas for further use as
	decided on case to case basis	prescribed.

depending on type and size of	
plant)	

VII. Green belt and EMP

SL. No.	STANDARD CONDITIONS	STATUS AS ON DATE / ACTION TAKEN
29)	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 green belt shall inter alia cover the entire periphery of the plant.	Green belt shall be developed as per the approved mining plan with plantation of native tree species in accordance with CPCB guidelines.
30)	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.	

VIII. Public hearing and Human health issues

SL. No.	STANDARD CONDITIONS	STATUS AS ON DATE / ACTION TAKEN
31)	Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.	Assessment) structure will be created by the company. A detail
32)	The project proponent shall carry out heat stress analysis for the work men who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms of Factory Act.	Not Applicable.

33)	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.	Project Proponent has constructed temporary camps outside (rented land) ML area with necessary basic infrastructure/ facilities like toilets, STP, safe drinking water, medical healthcare, etc
34)	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Project proponent has done Inital medical examination, occupational health check ups and maintaining the records as per Factories Act & Odisha Factories Rule.

IX. Corporate Environment Responsibility

SL. No.	STANDARD CONDITIONS	STATUS AS ON DATE / ACTION TAKEN
35)	The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No.22-65/2017-IA.III dated 15 May 2018, as applicable, regarding Corporate Environment Responsibility.	by the condition and comply
36)	laid down environmental policy	is having its own Environmental Policy. This policy gives more importance for Continual Improvement in Environmental

]
	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.	
37)	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 report to the head of the organization.	We have established an Environmental Cell headed by the Headof Mining Technical Services to look after the implementation of the various pollution control measures and other Environment Management System requirements and is reporting to the Head of the Organization.
38)	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.	Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company has already been in order. The fund earmarked for environmental protection measures in a separate account is being utilized for the said purpose only.
39)	Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.	Project proponent will conduct the environmental audit system as prescribed by implementing the ISO standards at operation level.
40)	All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP)for the Mineral Beneficiation plants shall be implemented.	Noted. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP)for the Mineral Beneficiation plants will be implemented.

X. Miscellaneous

41)	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 news papers 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.	Project proponent has advertised in the two local newspapers, i.e. Prameya Daily (vernacular language) and The New Indian Express – English daily within stipulated time period. A copy of the same got submitted to the Regional Office of this Ministry located at Bhubaneswar.
42)	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.	It has been complied.
43)	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their web site and update the same on half-yearly basis.	Mining operation is in initial stage and we are submitting our first six monthly compliance reports on the status of the implementation of the stipulated environmental safeguards status shall be uploaded on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal half yearly basis.
44)	The project proponent shall monitor the criteria pollutants level namely; PM10, SO, NOx (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 web site of the	The project proponent will display the information at a convenient location for disclosure to the public and put on the web site of the company.

	company.	
45)	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.	Mining operation is in initial stage and we are submitting our first six monthly compliance reports on the status of the implementation of the stipulated environmental safeguards to the MOEFCC & its concerned Regional Office, Central Pollution Control Board and State Pollution Control Board. Subsequently the status shall be uploaded on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
46)	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.	The environment statement for the reporting year 2021-22 shall be submitted to SPCB, Odisha and copy of the same shall also updated in the company's website followed by the submission of the same to the Office of the Ministry of Environment and Forests & Climate Change, Bhubaneswar.
47)	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.	The project proponent will 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.
48)	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.	Noted. The Project proponent will adhere by the condition stipulated by SPCB and the State government.
49)	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	The Project proponent is committed for implementing the commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

	during their presentation to the Expert Appraisal Committee.	
50)	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).	Noted. The Project proponent will abide by the condition.
51)	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.	Noted. The Project proponent will abide by the condition.
52)	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Noted. The Project proponent will abide by the condition.
53)	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.	Noted. The Project proponent will abide by the condition.
54)		data information/monitoring reports while monitoring the compliance of the stipulated conditions by the
55)	The above conditions shall been forced, 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.	
56)	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.	Noted. The Project proponent will abide by the condition.

PHOTOGRAPHS

Photo # 1:- Garland drain constructed 330mx1.5mx1.0m around the OB dump from MLP 01 to MLP02



Photo # 2:- Plantation and Transplantation work at safety zone Area





Photo # 3:- Top soil stack near Mine lease Pillar No.02



Photo # 4:- Ongoing Water sprinkling for dust suppression



Photo # 5:- AAQ Monitoring stations



Photo # 6:- Sewage Treatment plant (80KI) commissioned at camp





Photo # 7:- Continuous Ambient Air quality Monitoring Stations (CAAQMS)



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INDIA NON JUDICIAL Government of Gujarat



Certificate of Stamp Duty

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Article 4 Affidavit

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ARCELORMITTAL NIPPON STEEL INDIA LIMITED

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ARCELORMITTAL NIPPON STEEL INDIA LIMITED

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Statutory Alert

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Affidavit

I, Pankaj S Chourasia, aged about 44 years, son of Late Shri S. N. Chourasia, resident of Flat 1, Plot 131, Sector 12, Vashi, Navi Mumbai 400 703, do hereby state as follows:

- I Pankaj S Chourasia as Company Secretary of ArcelorMittal Nippon Steel India Limited (formerly Essar Steel India Limited) submitting this affidavit with reference to the Environmental clearance granted vide F. No. J-11015/192/2016-IA.II (M) dated 28th May 2020 for Ghoraburhani – Sagasahi Iron ore Block of M/s ArcelorMittal Nippon Steel India Limited (Formerly Essar Steel India Limited) with an approved quantity of Iron ore 7,162,538 TPA iron ore (ROM), 18750 TPA Topsoil and 2,868,896 TPA OB/SB/IB (Total Excavation : 1,00,50,184 TPA) along with Crushing & Screening Plant and Beneficiation Plant with capacity of 6.7 Million TPA (1250 TPH) capacity in the mine lease area of 139.165 ha, located at village – Ghoraburhani, Sagasahi and Kalmang, Tehsil Koira, District Sundargarh, Odisha.
- That I undertake, M/s Arcelor/Mittal Nippon Steel India Limited (Formerly Essar Steel India Limited) shall comply with all the conditions prescribed in the Environmental Clearance vide F. No. J-11015/192/2016-IA.II (M) dated 28th May 2020 issued by Ministry of Environment, Forest & Climate Change, New Delhi.
- That I swear this affidavit to produce before the Authority of Ministry of Environment, Forest and Climate Change, New Delhi.

Signature of Deponent Name: Pankaj S Chourasia Company Secretary ArcelorMittal Nippon Steel India Limited

VERIFICATION

Verified that the contents of this affidavit are true to my knowledge and no part of the affidavit is false and nothing has been concealed or missed therein.

Verified at on this 11th day of June, 2020

Signature, of Deponent

PAGE 2 OF2

Government of India Ministry of Environment, Forest and Climate Change (FC Division) ***

> Indira Paryavaran Bhawan, Jor bagh Aliganj Road, New Delhi – 110003. Dated: 15th December, 2020

To,

Addl. Chief Secretary (Forests), Government of Odisha, Bhubaneswar,

Subject :Proposal for diversion of 120.838 ha of forest land for iron ore mining under Section 2 (ii) and for according permission under Section 2 (iii) of the Forest (Conservation) Act, 1980 for entire forest land 126.401 ha including safety zone area of 5.563 ha in favour of M/s Essar Steel India Ltd within their allotted Ghoraburhani-Sagasahi Iron Ore Block of 139.165 ha located in village Sagasahi, Kalmang, Ghoraburhani and Mendhamaruni PRF-I in Koira Tehsil and Koira Range under Bonai Forest Division of Sundargarh District, Odisha.

Sir,

I am directed to refer to the State Government's letter No. 10F(Cons)-26/2018-17489/ F&E dated 08.08.2018 on above mentioned subject seeking prior approval of the Central Government under Section-2 of the Forest (Conservation) Act, 1980 and to say that the proposal was examined by the Forest Advisory Committee (FAC) constituted by the Central Government under Section-3 of the said Act. After careful consideration of the proposal and recommendation by the FAC, and approval of competent authority in the Ministry, Inprinciple/Stage-J approval was accorded for diversion of 120.838 ha of forest land for iron ore mining under Section 2 (ii) and for according permission under Section 2 (iii) of the Forest (Conservation) Act, 1980 for entire forest land 126.401 ha including safety zone area of 5.563 ha in favour of M/s Essar Steel India Ltd within their allotted Ghoraburhani-Sagasahi Iron Ore Block of 139.165 ha located in village Sagasahi, Kalmang, Ghoraburhani and Mendhamaruni PRF-1 in Koira Tehsil and Koira Range under Bonai Forest Division of Sundargarh District. Odisha vide this Ministry's letter of even number dated 06.03.2019 subject to fulfillment of certain conditions. The State Government has furnished compliance report in respect of the conditions stipulated in the approval and has requested the Central Government to grant final approval.

2. In this connection, I am directed to say that on the basis of the compliance report furnished by the State Government vide their letter no. 18092 9F (MG)-1/2018 dated 15.10.2020, *approval* of the Central Government is hereby accorded under Section-2 of the Forest (Conservation) Act, 1980 for subject diversion for opencast mining of limestone in favour of M/s Essar Steel India Ltd, subject to following conditions:

A: Conditions which need to be complied prior to handing over of forest land to user agency by the State Govt.:

i. The State Govt, shall ensure that the admissible identified non-forest land for raising

compensatory afforestation shall be notified as RF/ PF;

- ii. The State Govt. shall ensure the complete compliance on FRA, 2006; It should also be ensured that the FRA certificate issued by District collector is complete with letter number, date, name, signature and official seal, as required in the certificate.
- iii. The State Govt. shall ensure that the boundary of the diverted forest land, mining lease and safety zone, as applicable, shall be demarcated on ground at the project cost, by erecting four feet high reinforced cement concrete pillars, each inscribed with its serial number, distance from pillar to pillar and GPS co-ordinates;
- iv. The User Agency shall obtain the Environment Clearance as per the provisions of the Environmental (Protection) Act, 1986;
- v. State government may ensure that the KML files of diverted forest land and corresponding CA areas as approved by Government of India with requisite details are uploaded on e green watch portal.

B: Conditions which need to be complied after handing over of forest land to the user agency by the State Govt.:

- Legal status of the diverted forest land shall remain unchanged;
- ii. The State Govt. shall ensure that the State Forest Department will raise the Compensatory Afforestation in identified equal non-forest land in village Podadihi under Bansapal Tahasil of Keonjhar Forest Division in Keonjhar District in extent to the forest land being diverted within three years of Stage –II Clearance and maintained thereafter as per approved plan and At least 1000 plants per hectare shall be planted as per approved plan/scheme. The approved Soil and Moisture Conservation (SMC) activities on the CA land shall be carried out by the State Forest Department;
- iii. The State Govt. ensure that 5.563 ha of proposed safety zone shall be maintained as tree cover and should be enriched with indigenous species at the cost of the user agency under supervision of State Forest Department.
- iv. The State Govt. ensure that following activities shall be implemented by the user agency at the project cost under supervision of State Forest Department: a) Mitigative measures to minimize soil crosion and choking of stream shall be implemented within a period of three years with effect from the issue of Stage-II clearance in accordance with the approved Plan in consultation with the State Forest Department;

(b) Planting of adequate drought hardy plant species and sowing of seeds, in the appropriate area within the mining lease to arrest soil erosion in accordance with the approved scheme;

(c) Construction of check dam, retention /toe walls along the contour to arrest sliding down of the excavated material along the contour in accordance with the approved scheme;

(d) Stabilize the overburden dumps by appropriate grading / benching, in accordance with the approved scheme, so as to ensure that angles of repose at any given place is less than 280, and

(e) No damage shall be caused to the top-soil and the user agency will follow the top soil management plan.

- v. The user agency shall pay the additional amount of NPV, if so determined, as per the final decision of the Hon'ble Supreme Court of India;
- vi. The State Govt. ensure that the user agency will implement the approved plan /scheme for fencing, protection and regeneration of the safety zone area at their cost under supervision of State Forest Department;

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- vII.Period of diversion of the said forest land under this approval shall be for a period coterminus with the period of the mining lease proposed to be granted under the Mines and Minerals (Development and Regulation) Act, 1957, as amended and the Rules framed there-under;
- viii. The State Govt, ensure that no labour camp shall be established on the forest land and the User Agency shall provide fuels preferably alternate fuels to the labourers and the staff working at the site so as to avoid any damage and pressure on the nearby forest areas;
- ix. The State Govt. ensure that the layout plan of the mining plan/ proposal shall not be changed without the prior approval of the Central Government and the forest land shall not be used for any purpose other than that specified in the proposal;
- x. The State Govt, ensure that the forest land proposed to be diverted shall under no circumstances be transferred to any other agency, department or person without prior approval of the Central Government;
- xi. The State Govt. ensure that the user agency shall explore the possibility of translocation of maximum number of trees identified to be felled and shall ensure that any tree felling shall be done only when it is unavoidable and that too under strict supervision of the State Forest Department.
- xii. The State Govt. shall ensure that the user agency will implement the approved plan for gap planting and soil & moisture conservation activities at their cost under supervision of State Forest Department;
- xiii. The State Govt. ensure that the user agency shall carry out mining in a phased manner after taking due care for reclamation of the mined over area. The concurrent reclamation plan as per the approved mining plan shall be executed by the User Agency from the very first year, and an annual report on implementation thereof shall be submitted to the Nodal Officer, Forest (Conservation) Act, 1980, in the concerned State Government and the concerned Integrated Regional Office of the Ministry. If it is found from the annual report that the activities indicated in the concurrent reclamation plan are not being executed by the User Agency, the Nodal Officer or the concern Dy. Director General (Central) may direct that the mining activities shall remain suspended till such time, such reclamation activities area satisfactorily executed.
- xiv. The State Govt. ensure that the user agency shall carry out de-silting of the village tanks and other water bodies located within five km from the mine lease boundary so as to mitigate the impact of siltation of such tanks/water bodies at their cost in consultation with State Forest Department;
- xv.It may please note that violation of any of these conditions will amount to violation of Forest (Conservation) Act, 1980 and action would be taken as prescribed in para 1.21 of Chapter 1 of the Handbook of comprehensive guidelines of Forest (Conservation) Act, 1980 as issued by this Ministry's letter No. 5-2/2017-FC dated 28.03.2019;
- xvi.The mining lease holder shall, after ceasing mining operations, undertake re-grassing of the mining area, and any other areas which may have been disturbed due their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna, etc.
- xvii.The State Govt. shall ensure that the User Agency shall submit the annual self compliance report in respect of the above stated conditions to the State Government, concerned Regional Office and to this Ministry by the end of March every year regularly; and
- xviii. The State Govt, shall ensure that the user agency shall comply all the provisions of

File No.8-55/2018FC

the all Acts, Rules, Regulations, Guidelines, Hon'ble Court Order (s) and NGT Order (s) pertaining to this project, if any, for the time being in force, as applicable to the project.

Yours faithfully,

Sd/-(Sandeep Sharma) Asstt. Inspector General of Forests

Copy to:

- 1. Principal Chief Conservator of Forests, Government of Odisha, Bhubaneshwar.
- 2. Nodal Officer(FCA), Government of Odisha, Bhubaneshwar.
- 3. Dy. Director General (Central), Integrated Regional Office, Bhubaneshwar
- 4. Monitoring Cell of FC Divisions, MoEF&CC, New Delhi.
- 5. Guard file.

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ANALP AVRICE A

Location	Month	PM10	PM2.5	S02	XON	8
Mines office	Mines office September 21 77.0	0.77	29.4	19.3	31.9	BLQ(LOQ:1.0)
Mines canteen	September 21	70	15.0	14.0	20.0	BLQ(LOQ:1.0)

Average Monthly Ambient Air Quality Monitoring Reports

Average Monthly Ambient & Work zone Noise Quality Monitoring Reports

Monitoring Location	cation	Ghoraburhani	ani Kolmang	Бu	Barapada		Gandhalpada
SEPTEMBER		69.10	51.10	0	54.50		49.2
		WORKZO	WORKZONE NOISE LEVEL (Leq) IN dB(A)	VEL (Leq	(A) IN dB(A)		
Monitoring Location	Screer	Screen Plant area	Haul road	Mines Office	Mines face	Dumping Area	Dumping Ore storage Area yard
SEPTEMBER		57.20	73.30	52.0	71.60	70.20	70.10
	Resid	Residential, leq.	Day Ti	me: 55 c	Day Time : 55 dB (A) , Night Time : 45 dB (A)	Time: 45 d	B (A)
NORMS	Indu	Industrial, leq.	Day Ti	me : 75 c	Day Time : 75 dB (A) , Night Time : 70 dB (A)	Time: 70 d	8 (A)
	During	Eight hr. exp	During Eight hr. exposure the Noise level equivalent to be 85 dB (A) -Maximum	ise level e	equivalent to	be 85 dB (A) -Maximum

Dust Monitoring Re CRUSHING SCRE PLANT (FD3) (F	Fugitive Dust Monitoring Reports HAUL CRUSHING SCREENING S ROAD PLANT PLANT (FD2) (FD3) (FD4) (FD4) Quality Parameter, Results, micro	tive Dust Monitoring Reports VL CRUSHING SCREENING STORAGE & AD PLANT PLANT LOADING D2) (FD3) (FD4) (FD4) (FD5) Quality Parameter, Results, micro.gm/CUM

Average Monthly Fugitive Emission Monitoring Reports

		Ghorab	Ghoraburhani Sagasahi Iron ore Mines	n ore Mines		
		M/s Arcello	M/s Arcellor Mittal Nippon Steel India Limited	el India Limited		
		Surf	Surface Water Report(Monsoon)	lonsoon)		
			Sep-19			
SL.NO	Analysis	Unit	SW1	SW2	SW3	SW4
Orgal	noleptic & F					
a	Colour (apparent)	u. Hazen	10	5	10	10
,q	Odour	ŀ	Agreeable	Agreeable	Agreeable	Agreenble
0	pH Value	¥	6.87	6.57	6.98	7.46
P	Turbidity(NTU))		11.24	10.18	10.41	11.54
	Total dissolved solids	mg/l	32	18	57	33
Paran.	2. Parameter Concerning Undesirable Substances in excess amount	stances in c	xcess amount			
=	Aluminium as Al	mg/l	0.041	BLQ(LOQ:0.02)	BLQ(LOQ:0.02)	BLQ(LOQ:0.02)
a		mg/l	BLQ(LOQ:0.1)	BLQ(LOQ:0.1)	BLQ(LOQ:0.1)	BLQ(L0Q:0.1)
0	Anionic detergent (as MBAS)	Ing/I	BLQ(LOQ:0.5)	BLQ(L0Q:0.05)	BLQ(L0Q:0.05)	BLQ(LOQ:0.05)
P	Barium (as Ba)	l/gm	BLQ(LOQ:0.3)	BLQ(LOQ:0.3)	BLQ(L0Q:0.3)	BLQ(L0Q:0.3)
•	Boron(as B)	n2/1	BLQ(LOQ:0.5)	BLQ(L0Q:0.5)	BLQ(L0Q:0.5)	BLQ(L0Q:0.5)
	calcium (as ca)	mg/l	5.3	2.9	6	5.3
50	Chloramines(as Cl2)	mg/l	BLQ(L0Q:0.2)	BLQ(L0Q:02)	BLQ(LOQ:0.2)	BLQ(L0Q:0.2)
-	Chloride as (CI)	mg/l	2.4	2	3.4	1.5
-	Copper (8s Cu)	mg/1	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)
	Fluoride (as F)	mg/l	BLQ(LOQ:0.1)	BLQ(L0Q:0.1)	BLQ(LOQ:0.1)	BLQ(L0Q:0.1)
	Phenolic compounds	mg/l	BLQ(LOQ:0.001)	BLQ(LOQ:0.001)	BLQ(LOQ:0.001)	BLQ(LOQ:0:001)
-	Free residual Chlorine	mg/l	Not Applicable	Not Applicable	Not Applicable	Not Applicable
8	Iron (as Fe)	mg/l	0.012	0.18	0.28	0.19
-	Maenesium (as Mg)	Ine/I	2	1	3.3	2.2

٥	Manganese (as Mn)	l/gm	BLQ(LOQ:0.1)	BLQ(L0Q:0.1)	BLQ(LOQ:0.1)	BLQ(LOQ:0.1)
4	Mineral Oil	mg/l	BLQ(LOQ:0.01)	BLQ(L0Q:0.01)	BLQ(LOQ:0.01)	BLQ(LOQ:0.01)
a	Nitrate as NO3	Mgm	BLQ(LOQ:1.0)	BLQ(L0Q:1.0)	BLQ(LOQ:1.0)	BLQ(L0Q:1.0)
-	Selenium (as Se)	f/gm	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)
15	Silver (ns Ag)	1/gm	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)	BLQ(L0Q:0.002)
-	Sulphate (as SO4)	mg/l	5.8	6.1	8.9	6
з	Sulphid (as H2s)	mg/l	BLQ(LOQ:0.05)	BLQ(LOQ:0.05)	BLQ(LOQ-0.05)	BLQ(L0Q:0:05)
>	Total Alkalinity(as (CaCO3)	l/gm	17.3	10.2	29	20.4
w	Total Hardness(as CaCO3)	mg/l	21.4	11.2	36	22.4
	Zinc (as Zn)		0.025	0.027	0.016	0.034
.Para	3.Parameter concerning Toxic substances					
a	Cadmium (as Cd)	mg/l	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)
4	Cyanide(as CN)	mg/l	BLQ(L0Q:0.01)	BLQ(LOQ:0.01)	BLQ(LOQ:0.01)	BLQ(L0Q:0.01)
u	Lead (as pb)	l/gm	BLQ(LOQ:0.002)	BLQ(L0Q:0.002)	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)
P	Mercury(as Hg)	l/gm	BLQ(LOQ:0.001)	BLQ(LOQ:0.001)	BLQ(LOQ:0.001)	BLQ(LOQ:0.001)
U	Molibdenum(as Mo)	l/gm	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)
đ	Nickel(as Ni)	ng/l	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)	BLQ(L0Q:0.002)	BLQ(LOQ:0.002)
54	Total Arsenic (as As)	mg/I	BLQ(LOQ:0.002)	BLQ(LOQ:0.002) BLQ(LOQ:0.002)	BLQ(L0Q:0.002)	BLQ(LOQ:0.002)
4	Total Chromium(as Cr)	mg/l	BLQ(L0Q:0.002)	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)
.Micr	1.Microbial tests					
	E.Coli	per 100ml	Absent	Absent	Absent	Absent
: 5	Total Coliform Count	per 100ml	Absent	Absent	Absent	Absent
B-Ib0	Bdl- Below Detection Limit	201				
		1-W2	s	Suna River (Up stream)		DATE
		5W-2	Sur	Suna River (Down stream)	(m	
		SW-3		karo nalla		17.09.2021
		SW-4		Tehrei Nalla		

		Ghorab	Ghoraburhani Sagasahi Iron ore Mines	n ore Mines		
		M/s Arcello	M/s Arcellor Mittal Nippon Steel India Limited	el India Limited		
		Surfa	Surface Water Report(Monsoon)	lonsoon)		
			Sep-19			
SL.NO	Analysis	Unit	SW1	SW2	SW3	SW4
.Orgal	1. Organoleptic & Physical Parameter					
a	Colour (apparent)	u. Hazen	10	5	10	10
P	Odour	x	Agreeable	Agreeable	Agreeable	Agreeable
0	pH Value	:	6.87	6.57	6.98	7.46
P	Turbidity(NTU))		11.24	10.18	10.41	11.54
v	Total dissolved solids	Mg/l	32	18	57	33
Paran.	2. Parameter Concerning Undesirable Sul	bstances in e	rable Substances in excess amount			
8	Aluminium as Al	mg/l	0.041	BLQ(LOQ:0.02)	BLQ(LOQ:0.02)	BLQ(LOQ:0.02)
q	Ammonia (as total ammonia-N)	mg/l	BLQ(L0Q:0.1)	BLQ(LOQ:0.1)	BLQ(L0Q:0.1)	BLQ(L0Q:0.1)
0	Anionic detergent (as MBAS)	Ngm	BLQ(L0Q:0.5)	BLQ(LOQ:0.05)	BLQ(L0Q:0.05)	BLQ(LOQ:0.05)
P	Barium (as Ba)	mg/l	BLQ(L0Q:0.3)	BLQ(L0Q:0.3)	BLQ(L0Q:0.3)	BLQ(LOQ:0.3)
	Boron(as B)	mg/l	BLQ(L0Q:0.5)	BLQ(LOQ:0.5)	BLQ(L0Q:0.5)	BLQ(L0Q:0.5)
4	calcium (as ca)	mg/l	5.3	2.9	9	53
51	Chloramines(as Cl2)	mg/l	BLQ(L0Q:0.2)	BLQ(LOQ:0.2)	BLQ(L0Q:0.2)	BLQ(L0Q:0.2)
£	Chloride as (Cl)	mg/l	2.4	2	3.4	1.5
-	Copper (as Cu)	mg/l	BLQ(L0Q:0.002)	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)
-	Fluoride (as F)	Ing/I	BLQ(LOQ:0.1)	BLQ(LOQ:0.1)	BLQ(L0Q:0.1)	BLQ(L0Q:0.1)
×	Phenolic compounds	mg/l	BLQ(L0Q:0.001)	BLQ(L0Q:0.001)	BLQ(LOQ:0.001)	BLQ(LOQ:0.001
-	Free residual Chlorine	mg/l	Not Applicable	Not Applicable	Not Applicable	Not Applicable
E	Iron (as Fc)	Ing/I	0.012	0.18	0.28	0.19
=	Magnesium (as Mg)	Mgm	2	1	3.3	2.2

0	Manganese (as Mn)	mg/l	BLQ(LOQ:0.1)	BLQ(LOQ:0.1)	BLQ(L0Q:0.1)	BLQ(LOQ:0.1)
d	Mineral Oil	mg/l	BLQ(LOQ:0.01)	BLQ(LOQ:0.01)	BLQ(LOQ:0.01)	BLQ(L0Q:0.01)
	Nitrate as NO3	mg/l	BLQ(LOQ:1.0)	BLQ(LOQ:1.0)	BLQ(LOQ:1.0)	BLQ(LOQ:1.0)
н	Selenium (as Sc)	mg/l	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)
80	Silver (as Ag)	l/gm	BLQ(L0Q:0.002)	BLQ(L0Q:0.002)	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)
-	Sulphate (as SO4)	mg/l	5.8	6.1	8.9	9
п	Sulphid (as H2s)	ng/l	BLQ(LOQ:0.05)	BLQ(LOQ:0.05)	BLQ(L0Q:0.05)	BLQ(LOQ:0.05)
٨	Total Alkalinity(as (CaCO3)	l/gm	17.3	10.2	29	20.4
w	Total Hardness(as CaCO3)	l/gm	21.4	11.2	36	22.4
	Zinc (as Zn)		0.025	0.027	0.016	0.034
Para	3. Parameter concerning Toxic substances	8				
8	Cadmium (as Cd)	mg/l	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)
q	Cyanide(as CN)	ng/l	BLQ(LOQ:0.01)	BLQ(LOQ:0.01)	BLQ(LOQ:0.01)	BLQ(LOQ:0.01)
0	Lead (as pb)	ng/l	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)
p	Mercury(as Hg)	l/gm	BLQ(LOQ:0.001)	BLQ(LOQ:0.001)	BLQ(L0Q:0.001)	BLQ(LOQ:0.001)
v	Molibdenum(as Mo)	l/gm	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)	BLQ(L0Q:0.002)	BLQ(LOQ:0.002)
f	Nickel(as Ni)	mg/l	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)
50	Total Arsenic (as As)	mg/l	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)	BLQ(LOQ:0.002)
ų	Total Chromium(as Cr)	l/gm	BLQ(LOQ:0.002)	BLQ(LOQ:0.002) BLQ(LOQ:0.002) BLQ(LOQ:0.002) BLQ(LOQ:0.002)	BLQ(LOQ:0.002)	BLQ(LOQ:0.002
Micro	1. Microbial tests					
	E.Coli	per 100ml	Absent	Absent	Absent	Absent
÷	Total Coliform Count	per 100ml	Absent	Absent	Absent	Absent
dl-Be	Bdl- Below Detection Limit					
		SW-1	St	Suna River (Up stream)	(6	DATE
		SW-2	Sur	Suna River (Down stream)	(m)	
		SW - 3		karo nalla		17.09.2021
		SW-4		Tehrei Nalla		

mg/l 10.0 12.0
1/gm

Sewage Treatment Plant Discharge Water Analysis Report

-

		AMBIEN	IT NO	DISE LEV	EL (Leq)	IN dB(A)		
Monitoring Lo	cation	Ghoraburha	ani	Kolma	ing	Barapada		Gandhalpada
SEPTEMBE	R	69.10		51.1	0	54.50		49.2
	WORKZONE NOISE LEVEL (Leq) IN dB(A)							
Monitoring Location	Screer	n Plant area	Hat	ul road	Mines Office	Mines face	Dumpin Area	g Ore storage yard
SEPTEMBER		57.20	7	3.30	52.0 71.60		70.20	70.10
	Resid	lential, leq.		Day Time : 55 dB (A) , Night Time : 45 dB (A)				dB (A)
NORMS	Indu	strial, leq.		Day T	ime : 75 d	B (A) , Night	Time : 70	dB (A)
	During	g Eight hr. exp	oosure	e the No	ise level e	quivalent to	be 85 dB	(A) -Maximum

Average Monthly Ambient & Work zone Noise Quality Monitoring Reports

ANNERVEL # 4



FAX : 2562822/2560955 Tel : 2564033/2563924 EPABX : 2561999/2562847 E-mail: <u>parlbesh1@cspcboard.org</u> Web site : www.cspcbcard.org

BY REGD POST

OFFICE OF THE STATE POLLUTION CONTROL BOARD, ODISHA (DEPARTMENT OF FOREST & ENVIRONMENT, GOVERNMENT OF ODISHA)

Paribesh Bhawan, A/118, Nilakantha Nagar, Unit – VIII Bhubaneswar – 751 012, INDIA

No. 459

ODISH

IND-II-NOC-6124 Date 4 - 01 - 2.018/

OFFICE MEMORANDUM

In consideration of the online application no. 1615707 for obtaining Consent to Establish for Ghorabhurani-Sagasahi Iron Ore Mine Of M/s Essar Steel India Ltd., the State Pollution Control Board is pleased to convey its Consent to Establish under section 25 of Water (Prevention & Control of Pollution) Act, 1974 and section 21 of Air (Prevention & Control of Pollution) Act, 1981 for production of Iron Ore (RoM) of Capacity 7.16 MTPA along with Crushing and Screening Plant (Stationary) – 1 x 1350 TPH, Crushing and Screening Plant (Mobile) – 2 x 500 TPH and Iron Ore Beneficiation Plant of capacity 6.7 MTPA over an area of 139.165 ha., At – Village Ghoraburhani, Sagasahi and Kalamanga, Tahasil – Koira in the district of Sundargarh, Odisha with the following conditions.

GENERAL CONDITIONS:

- This Consent to establish is valid for the product, method of mining and capacity mentioned in the application form. This order is valid for five years. The proponent shall commence mining activities for the proposal within a period of five years from the date of issue of this consent to establish order. If the proponent fails to commence mining activities for the proposal within five years then a renewal of this consent to establish shall be sought by the proponent.
- The mine shall apply for grant of Consent to operate under section 25/26 of Water(Prevention & Control of Pollution)Act, 1974 & Air (Prevention & Control of Pollution)Act, 1981 at least 3 (three) months before the commencement of production and obtain Consent to Operate from this Board.
- No change in mining technology and scope of working shall be made without prior approval of the Board.
- This consent to establish is subject to statutory and other clearances from Govt. of Odisha and/or Govt. of India, as and when applicable.

SPECIAL CONDITIONS:

General:

 The proponent shall obtain environmental clearance as per EIA notification, 2006 and amendment thereafter before commencement of mining activity.



The proponent shall obtain forest clearance for the forest land involved in the lease area

- The proponent shall obtain requisite permission from the Water Resources Department, Govt. of Odisha for drawal of water.
- 4. A green belt of adequate width and density preferably with local species along the periphery of the mine, inactive dumps, backfilled area, vacant area, colony and any other vacant area shall be raised so as to provide protection against particulates and noise to ameliorate the environment. A detailed plantation programme in this regard shall be prepared and submitted at the time of making application for consent to operate for assessment.
- A separate environmental management cell with suitable qualified personnel should be set up under the control of a Senior Executive, who will report directly to the Head of the organization.
- The Board may impose further conditions or modify the conditions stipulated in this order during installation and/or at the time of obtaining consent to operate and may revoke this clearance in case the stipulated conditions are not implemented.
- The above conditions will be enforced, inter-allia, under the provisions of the water (Prevention & Control of pollution) Act, 1974 and Air (Prevention & Control of Prevention) Act, 1981 and Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and Rule.

Water Pollution:

- Effluent standard for iron ore mining and ore processing as notified by the MoEF&CC, Govt. of India vide G.S.R 809 (E) dated 04.10.2010 shall be followed.
- Domestic effluent shall be discharged to soak pit via septic tank constructed as per BIS specification.
- At the wet beneficiation plant, process waste water shall be recycled from thickener overflow to the maximum possible extent in order to reduce surface water pollution due to less discharge to the surrounding environment and less process water requirement.
- Provision of suitable designed tailings dam with reclamation of clarified water and control of seepage water shall be provided by constructing seepage water collection ditch at the downstream side alongwith the recirculation facilities. Desilting of tailings shall be carried out periodically before onset of monsoon.
- Maximum recovery of iron ore fines/micro fines need to be encouraged by adoption of hydro-cyclones, slow speed classifiers in the wet beneficiation circuit in order to increase the life of tailing dam.
- Garland drains along with settling pit shall be provided around the iron ore fines stock yard to control washout of fines from the stockyard along with surface runoff.
- Surface run-off from OB dump area, mineral stock yard, top soil storage area and rain water to be pumped from quarry shall be routed through adequate settling pond (designed maximum hourly rain fall basis) to meet prescribed effluent standard as notified by the MoEF&CC, Govt. of India vide G.S.R 809 (E) dated 04.10.2010, before discharge into natural stream/water courses.

[2]

- 15. Oil and grease trap should be installed before discharge of effluent from workshop." Wastewater from the mine pit, check dams or any other discharge, leaving lease boundary of the mine should be properly collected, treated so as to conform the standard as notified by the MoEF&CC, Govt. of India vide G.S.R 809 (E) dated 04.10.2010.
- 16. Regular monitoring of ground water level and quality should be carried out by establishing a network of existing wells. The monitoring should be done four times a year in pre-monsoon (April/May), Monsoon (August), Post-monsoon (November) and winter (January) seasons. Data thus collected should be submitted to the Board quarterly.
- The effluents due to washing of HEMM (Heavy Earth Moving Machines) and vehicles on the ramps will be treated in ETP and the treated water will be collected in the treated water storage tank and reused for washing.
- The proponent shall provide one rain water harvesting pond with adequate size for collection of rainwater and water from the pond shall be utilized for the mining activity.
- 19. The proponent shall maintain zero discharge of effluent from the tailing pond.

Air Pollution:

- The emission standard for stack for De-dusting unit and Fugitive emission standard for iron ore mining and ore processing as notified by the MoEF&CC, Govt. of India vide G.S.R 809 (E) dated 04.10.2010 shall be followed.
- Drill should be wet operated or with dust extractors and controlled blasting should be practices. Pre-wetting of blasting site shall be practiced.
- Both dust suppression (dry fog) and extraction (bag filter) system shall be provided at all dust generating source such as crushing, screening, material transfer points etc. to control fugitive emission.
- The primary crusher, screen and secondary crusher and the conveyor shall be placed under cover.
- 24. All the product conveyor of the crushers shall discharge the product into a hopper and chute arrangement fitted with dust extraction and bag filter system. Chute shall be maximum 3 meter height from the ground level. Fixed auto sprinklers shall be provided in the stock yard of product.
- 25. The mine shall make provision to collect the fine products in hopper instead of heaping by free falling to avoid the dust nulsance. The ore fines shall be stacked properly and systematically with retaining wall at the toe to avoid washings during rain. Ore fine transportation shall be done in covered truck.
- 26. Dust suppression on mine haul roads, active OB dumps and mine working benches shall be done by spraying water through water sprinklers along with chemical binders/wetting agents at frequent interval in order to reduce water consumption and to improve retention and re-absorption capacity of water. Water sprinklers of fixed type shall also be provided at the mine HEMM maintenance shop, other service centers and approach roads from mines to raw material handling & product handling area to prevent the generation of dust to be air borne.
- Two ambient air quality monitoring stations for 24 hours operation should be established in the core zone as well as in the buffer zone for PM₁₀, PM_{2.6}, SPM, SO₂, NOx and CO monitoring. Location of the stations should be decided in consultation with the State



Pollution Control Board. Data on ambient air quality (PM₁₀, PM_{2.5}, SPM, SO₂, NOx and CO) should be submitted to the State Pollution Control Board once in six months.

 Adequate measures shall be taken for control of noise levels in the work environment of mine area so that noise levels at the boundary line of mining lease area shall not exceed 75 dB (A) during day time (06:00 AM to 10:00 PM) and 70 dB(A) during night time (10:00 PM to 06:00 AM)

Solid and Hazardous Waste:

- The tailing pond shall be covered through vegetation once the life of pond is over.
- 30. The unit shall make effort to use the tailings generated from wet beneficiation plant as raw materials for value added products like ceramic floor tiles, wall tiles and bricks.
- Top soil should be stacked separately with proper slope at earmarked site (s) with adequate measures and shall be used for reclamation and rehabilitation of mined out areas.
- 32. At stockpile and loading plant area, a network of drains shall be constructed at a depth of 1.5 meter below the lowest level on the sites parallel to the stockpile area with interconnected box culverts. The sloping of surface shall be given inward to the stockpiles so that surface water will only infiltrate in to the drain.
- 33. The OB/waste dumps shall be properly dressed, benched, stopped at low angle (30°) with terracing and bamboo barricades in the slopes making retaining walls stone barriers at the toe of the dumps gully plugging etc. to prevent the solid erosion during monsoon, besides establishing vegetation on dump top as well as its slope surface. In difficult cases, hydroseedling technique or use of geo-tiles mat embedded with seeds shall be adopted.
- The proponent shall comply to the provisions of Hazardous and Other Wastes (Management and Trans boundary Movement) Rules, 2016 and amended thereafter.

MEMBER SECRETAR

To,

The General Manager, Ghorabhurani-Sagasahi Iron Ore Mine of M/s Essar Steel India Ltd., Ore Club, Bhadrasahi Chowk, Near Bank of India (ATM) NH-215, Barbil, Keonjhar, Odisha-758035.

Memo No. 460 101. 11-01-20181

Copy forwarded to:

- 1. The Secretary Steels & Mines, Govl. of Odisha, Bhubaneswar
- 2. The Director, Directorate of Mines, Govt. of Odisha, Bhubaneswar
- 3. The District Magistrate & Collector, Sundargarh.
- 4. The Deputy Director of Mines, Sundargarh.
- 5. The DFO, Sundargarh.
- 6. The Regional Officer, SPC Board, Sundargarh.
- 7. Consent to Operate Section, SPC Board, BBSR
- 8. Hazardous Waste Management Cell, SPC Board, BBSR
- 9. Copy to Guard file

SR.ENV. SCIENTIST, L-I (N)



CONSENT ORDER SHORADHUNAN MANAGAME FEDE OFFICE HEAD AND A LTD

STATE POLLUTION CONTROL BOARD, ODISHA

A/118, Nilakantha Nagar, Unit-VIII, Bhubaneswar-751012 Phone-2561909, Fax: 2562822, 2560955 E-mail: paribesh1@ospcboard.org, Website: www.ospcboard.org

CONSENT ORDER

No.	6004	/ IND-I-CON-6154
NO	0001	/1110-1-0011-0104

DL 12.04.20211

CONSENT ORDER NO. 2955

- Sub: Consent for discharge of sewage and trade effluent under section 25/26 of Water (PCP) Act, 1974 and for existing / new operation of the plant under section 21 of Air (PCP) Act, 1981.
- Ref: Your Online Application No. <u>3150473 Dated 19-10-2020 and online reply dated</u> 09.12.2020, 1.2.2021 & 27.3.2021 and Letter No. AMNS/Sagasahi/11 dated 27.03.2021.

Consent to operate is hereby granted under section 25/26 of Water (Prevention & Control of Pollution) Act, 1974 and under section 21 of Air (Prevention & Control of Pollution) Act, 1981 and rules framed thereunder to

Name of the Industry: GHORABHURANI-SAGASAHI IRON ORE BLOCK OF M/S. ARCELOR MITTAL NIPPON STEEL INDIA LTD

Name of the Occupier & Designation: RAMAKRISHNA CHINNAMSETTY, AUTHORISED SIGNATORY

Address: AT: GHORABHURANI, PO: KOIRA, DIST: SUNDARGARH

This consent order is valid for the period up to <u>31.03.2022 from the date of issue of</u> this order.

Details of Products Manufactured

SI. No	Product	Quantity
01.	Iron Ore[ROM]	7.16 MTPA

Details of Mineral Handling Plants /Units

01	Stationary crushing and screening plant of capacity 1X1350 TPH	
02.	Mobile crushing and screening plant of capacity 2X500 TPH	

This consent order is valid for the specified outlets, discharge quantity and quality, specified chimney/stack, emission quantity and quality of emissions as specified below. This consent is granted subject to the general and special conditions stipulated therein.



CONSENT ORDER EKONOBERAN SAGADAM MOX GRE MOX OF WS. ARCELORMITIM. MERONATEL. MOAS LTD

A. Discharge permitted through the following outlet subject to the standard

Outlet	Description of	Point of	Quantit		Pre	-scribed	d Standard	
No.	outlet	discharge	y of dischar ge	рН	TSS (mg/l)	BOD (mg/l)	Fecal Coliform (MPN/10 0ml)	Oil & Grease (mg/l)
01	Septic tank (Domestic effluent)	Soak pit	-	5.5-9.0	200	100		
02	Mine drainage water/	On land / inland	-	5.5-9.0	100 (Rainy day)	-	-	10
	surface runoff/oth er wastewater except beneficiat ion plant	1			50 (Non- Rainy day)			

B. Fugitive Emission Standards

Particulate Matter	1200 µg/m³
Note : Fugitive emission s ± 2.0 metres from the sou	shall be monitored in the predominant downwind direction at a distance 25.0 rce of fugitive emission as per following :
Area	Monitoring Location
Mine face / Benches	Drilling, excavation and loading applicable for operating benches above water table
Haul Roads/ Service Roads	Haul roads to ore processing plant, waste dumps and loading areas and service road.
Crushing plant	Run-off mine unloading at hopper, crushing areas, screens and transfer points.
Screening plant	Screens, conveying and transportation of ore discharge points.
Ore storage and loading	Intermediate stock bin / pile areas, ore stock bin / pile areas, wagon / truck loading areas.
Waste dump	Active waste / reject dumps

C. Disposal of solid waste permitted in the following manner

SI. No.	Type of Solid waste	Quantity generated (TPD)	Quantity to be reused on site(TPD)	Quantity to be reused off site(TPD)	Quantity disposed off (TPD)	Description of disposal site.
01	Top soil/ over burden	As per approved mining plan				As per approved mining plan



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CONSENT ORDER

D. GENERAL CONDITIONS FOR ALL UNITS

- The consent is given by the Board in consideration of the particulars given in the application. Any change or alternation of deviation made in actual practice from the particulars furnished in the application will also be the ground liable for review/variation/revocation of the consent order under section 27 of the Act of Water (Prevention & Control of Pollution) Act, 1974 and section 21 of Air (Prevention & Control of Pollution) Act, 1981, and to make such variations is deemed it for the purpose of the Acts.
- The industry would immediately submit revised application for consent to operate to this Board in the event of any change in the quantity and quality of raw material / and products / manufacturing process or quantity /quality of the effluent rate of emission / air pollution control equipment / system etc.
- The applicant shall not change or after either the quality or quality or the rate of discharge or tomperature or the route of discharge without the previous written permission of the Board
- 4. The application shall comply with and carry out the directives/orders issued by the Board in this consent order and at all subsequent times without any negligence on his part. In case of non-compliance of ony order/directives issued at any time and/or violation of the terms and conditions of this consent order, the applicant shall be liable for legal action as per the provisions of the Law/Act.
- The applicant shall make an application for grant of fresh consent at least to days before the date of expry of this consent order.
- 5. The issuance of this consent does not convey any property right is either real or personal property or any exclusive privileges nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Central, State laws or regulation.
- This consent does not authorize or approve the construction of any physical structure or facilities or the undertaking of any work in any natural water course.
- 8. The applicant shall display this consent granted to him in a prominent place for perusal of the public and inspecting officers of this Board.
- An inspection book shall be opened and made available to Board's Officers during the visit to the factory.
- 10. The applicant shall turn is to the visiting officer of the Board any information regarding the construction, installation or operation of the plant or of effluent treatment system / air pullution control system / stack monitoring system any other particulars as may be partnern to preventing and controlling pollution of Water / Air.
- 11. Melans must be affixed at the entrance of the water supply connection so that such motors are easily accessible for inspection and maintenance and for other purposes of the Act provided that the place where it is affixed shall in no case be at a point before which water has been taped by the consumer for utilization for any purposes whatsoever.

Separate meters with necessary pipe-line for assessing the quantity of water used for each of the purposes mentioned below:

- a) Industrial cooling, spraying in mine pits or boiler feed,
- b) Domestic purpose
- c) Process
- 15. The applicant shell display suitable caution board at the isce where the effuent is entering into any valor-body or any other place to be indicated by the Board, indicating therein that the area into which the effuence are being discharged is not in for the domestic use/balaning.
- 14. Storm water shall not be allowed to mix with the trade and/or domestic effluent on the upstream of the terminal manholes where the flow measuring devices will be installed.
- 15. The applicant shall maintain good house-keeping both within the factory and the premists. All pipes, valves, sewors and drains shall be leakproof. Floor washing shall be admitted into the effluent collection system only and shall not be allowed to find their way in storm drains or open areas.
- 16. The applicant shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systema install or used by him to achieve with the term(s) and conditions of the consent.
- 17. Care should be taken to keep the unserobic lagoons, if any, biologically active and not utilized as more stignation ponds. The anaerobic lagoons, should be fed with the required nutrients for effective digestion. Lagoons should be constructed with sides and bottom made improvidus.
- 18. The utilization of treated effluent on factory's own land, if any, should be completed and there should be no possibility of the effluent gaining access into any drainage channel or other water courses either directly or by overflow.
- 19. The effuent disposal on land, if any, should be done without creating any ruleance to the surroundings or inundation of the lands at any time.
- If at any time the disposal of treated efficient on land becomes incomplete or unsatisfactory or creak any problem or becomes a matter of dispute, the industry must adopt alternate satisfactory treatment and disposal measures.
- 21. The studge from treatment units shall be cried in studge drying beds and the drained liquid shall be taken to equalization tank.
- 22 The effluent treatment units and disposal measures shall become operative at the time of commencement of production.
- 23. The applicant shall provide port holes for samping the emissions and access platform for carrying out stack sampling and provide electrical outer points and other arrangements for chimneys/stacks and other sources of emissions so as to collect samples of emission by the Board or the applicant at any time in accordance with the provision of the Act or Rules made therein.
- 24. The applicant shall provide all facilities and render required assistance to the Board staff for collection of samples / stack monitoring / inspection.
- 25. The applicant shall not change or ster either the quality or rate of emission or install, replace or atter the air pollution control equipment or change the raw material or manufacturing process resulting in any change in quality and/or quantity of emissions, without the previous written permission of the Board.
- No control equipments or chimney shall be altered or replaced or as the case may be erected or re-erected except with the previous approval of the Board.



CONSENT ORDER

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- The liquid effluent arising out of the operation of the air pollution control equipment shall w treated in the manner and to ion of standards prescribed by the Board in accordance with the provisions of Water (Prevention and Control of Pollution) Act, 1974 (as amended), 27.
- The stack monitoring system employed by the applicant shall be opened for inspection to the Board at any time. 28.
- There shall not be any fugilize or opisodal discharge from the premises 59.
- In case of such episodal discharge/emissions the industry shall take immediate action to bring down the emission within the imste prescribed by the Board in conditionsistop the operation of the plant. Report of such accidental discharge Jemission shall be brought to the notice of the Board 30 within 24 hours of occurrence
- The applicant shall keep the premises of the industrial paint and air pollution control equipments clean and make all hoods, pipes, valves, stacks/onimneys leak proof. The air pollution control equipments, location, inspection champers, sampling port holes shall be made easily 31. accessible at all times
- Any upset condition in any of the plant/plants of the factory which is likely to result in increased effuent discharge/emission of air poluteria and / or result in violation of the standards mentioned obeve shall be reported to the Headquarters and Regional Office of the Board by fax I speed post. 32. within 24 hours of its occurence
- The industry has to ensure that minimum three varieties of trees are planted at the density of not less than 1000 trees per acre. The trees may be planted along boundaries of the industries or industrial premises. This plantation is alipulated over and above the bulk plantation of trees in that 33. ama
- The solid waste such as sweeping, wastage packages, unity containers residues, sludge including that from air pollution control equipments collected within the promises of the industrial plants shell be disposed off scientifically to the satisfaction of the Board, so as no to cause fugitive 34. emission, dust problems through leading etc., of any kind.
- All solid westes arising in the promises shall be properly classified and disposed off to the satisfaction of the Board by : 35
 - Land till in case of inent material, care being taken to ensure that the material does not give rise to leachate which may percolate into i)
 - ground water or carried away with storm run-off. Controlled incineration, wherever possible in case of combustible organic material.
 - 15 Composing, in case of bio-degradable material
- Any toxic material shall be detoxicated if possible, otherwise be sealed in steel drums and buried in protected pleas after obtaining approval of this Board in writing. The detoxication or sealing and burying shall be carried out in the presence of Board's authorized persons only. Letter of authorization shall be obtained for handling and disposal of hazardous wastes. 36
- If due to any technological improvoment or otherwise this Board is of opinion that all or any of the conditions referred to above requires variation (including the change of any control equipment either in whole or in darit) this Board shall after giving the applicant an opportunity of being heard, vary all or any of such condition and thereupon the applicant shall be bound to comply with the conditions to varied. 37
- The applicant, his/heirs/legal representatives or assignees shall have no claim whatsoever to the condition or renewal of this concent after the 38. expiry period of this consent.
- The Board reserves the right to review, impose additional conditions or condition, neverile change or after the terms and conditions of this consent. 39.
- Notwithstanding anything contained in this conditional letter of consent, the Board way reserves to it the right and power under section 27(2) of the 40 Water (Prevention & Control of Pollution) Act, 1974 to review any and/or all the conditions imposed herein above and to make such variations as deemed fit for the purpose of the Act by the Board.
- The conditions imposed as above shall continue to be in force until revoked under section 27(2) of the Water (Prevention & Control of Pollution) 41. Act, 1974 and section 21 A of Air (In evenior & Central of Pollutor) Act, 1981
- In case the consent fear is revised upward during this period, the industry shall pay the differential tees to the Board (for the remaining years) to keep the consent order in force. If they fail to pay the amount within the period stipulated by the Board the consent order will be revoked without 42. prior notice.
- The Board reserves the right to revokel/refuse consent to operate at any time during period for which consent is granted in case any violation is 43. observed and to modify sigulate additional conditions as deemed appropriate.

GENERAL CONDITIONS FOR UNITS WITH INVESTMENT OF MORE THAN Rs 50 CRORES, AND 17 CATEGORIES OF HIGHLY POLLUTING INDUSTRIES (RED A).

- The applicant shall analyse the emissions every month for the parameters indicated in TABLE B & C as montioned in this order and shall furnish the report thereof to the Board by the 10° of the succeeding month. 1.
- The applicant shall provide and maintain at his own cost three ambient air quality monitoring stations for monitoring Suspended Particulate 2 Matter, Suphor Dickide, Oxides of Nirtigen, Hydro-Carbon, Carbon-Monteide and monitor the same once in a dayweek/formight/month. The data collected shall be maintained in a register and a mondity extract be furnished to the Board.

The applicant shall provide and maintain at his own cost a meteorological station to collect the data on wind validatly, direction, temperature, 3. frumidity, rainfail, etc. and the daily roading shall be recorded and the extract sent to the Board once in a month.

- The applicant shall forward the following information to the Member Secretary. State Pollution Control Board, Odisha, Bhubaneswar 4 regularly.
 - Report of analysis of stack montoning, ambient or quality monitoring metaorological data as required every month.
 - Progress on planting of trees quarterly. 5
- The applicant shall install mechanical composite sampling equipment and continuous flow measuring i recording devices on the efficient 5 drams of trade as well as domestic offluent. A record of daily discharge shall be maintained.



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CONSENT ORDER

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The following information shall be lanwaided to the Member Secretary on or before 10th of every month.

- a. Performance / progress of the treatment plant
- b. Monthly statement of daily discharge of domestic and/or trade offluent.

7. Non-compliance with effluent limitations

- a) If for any reason the applicant does not comply with or is unable to comply with any effuent limitations specified in this consent, the applicant shall immediately notify the consent issuing authority by telephone and provide the consent issuing authority with me following information in writing within 5 days of such notification.
 - I) Causes of non-compliance
 - A description of the non-compliance discharge including its impact on the receiving waters.
 - Anticipated time of continuance of non-compliance if expected to continue or it such condition has been corrected the duration or period of non-compliance.
 - 85 Steps taken by the applicant to reduce and eliminate the non-complying discharge and
 - N) Steps to be taken by the applicant too prevent the condition of non-compliance.
- b) The applicant shall take all reasonable steps to minimize any adverse impact to natural waters resulting from non-compliance with any effluent limitation specified in this consent including such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge.
- c) Nothing in this consent shall be construed to relieve the applicant from civil or criminal penalties for non-compliance whether or not such non-compliance is due to factors beyond his control, such as broak-down, electric failure, accident or natural disaster.
- The applicant shall at his own cost get the effluent samples collected both before and after treatment and get them analysed at an approval laboratory every month for the parameters indicated in Part-D and shall submit in duplicate the report thereof to the Board.
- 9. The addition of various treatment chemicals should be done only with mechanical dosers and proper equipment for regulation of correct dosages determined daily and for proper uniform leading. Crude practices such as dumping of chemicals in drains or sumps or tricking of acids or alkales arbitrarily and utilizing poles for stiming etc. should not be resorted to
- In the disposal of heated effuent on land for impation, the industry shall keep in view of the need for;

Rotation of crops

- Change of point of application of effluent on land
- A portion of land kept fallow.
- 11. The adoption of these would avoid soil becoming sick or state, the industry may ensure this in consultation with the Agriculture Department.
- It is the sole responsibility of the industry to ensure that there are no complaints at any time from the royats in the surrouncing areas as a result of discharge of sewage or trade effuent if any.
- 13 Proper house keeping shall be maintained by a dedicated team.
- 14. The industry must constitute a team of responsible and technically qualified personnel, who will ensure continuous operation of all pollution control control devices round the dock (including right hours) and should be in a position to explain the status of operation of the pollution control measures to the inspecting officers of the Board at any point of time. The name of these persons with their contact telephone numbers shall be intimated to the concerned. Regional Officer and Head Office of the Board and in case of any change in the team it shall be infimated to the Board immediately.



E. SPECIAL CONDITIONS:

- This consent order is subject to permission from Steel and Mines Department, Government of Odisha for commencement of mining operation.
- Mining operation is subject to availability of all other statutory clearances.
- The date of commencement of mining operation shall be informed to Head Office as well as Regional Office, Rourkela of SPCB, Odisha.
- 4. The proposed control measures for air and water shall be implemented before commencement of mining operation and compliance report, in this regard shall be submitted to Board for necessary verification.
- 5. The annual quantity of production shall be determined on monthly pro-rata basis from the date of issue of this order. If the date of issue is before 15th of the month, then the entire month will be considered for calculation, otherwise the quantity shall be determined from the next month on pro-rata basis.
- Drills shall either be operated with dust extractors or equipped with water injection system to minimize dust generation in the work environment.
- Controlled blasting shall be practiced to minimize generation of dust and fly rocks.
- 8. Regular water sprinkling shall be carried out in critical areas prone to air pollution such as around crushing and screening plant. Water sprinkling shall also be carried out on haul roads at frequent interval so that it should always remain in wet condition. Haulage roads shall be devoid of ruts and potholes and shall be maintained properly to avoid generation of dust during movement of vehicles.
- 9. The crushing and screening plants shall be installed with its pollution control measures. Once the crushing and screening plants are installed, it shall be informed to Board for verification. The commissioning of the crushing and screening plants shall be done only after the verification of adopted pollution control measures by Regional Officer, Rourkela and permission from Board.

CONSENT ORDER BRORADHUMHUSAGASAHI INDIX OME BLOCK OF V.S. ARCELORHITTAL MERCH STEEL INDIA (170



- 10. Dust suppression measures preferably dry fog system shall be provided at all appropriate places of mineral handling plants (crusher & screening plant). Loading and unloading areas including all the transfer points shall also have efficient dust suppression arrangements (dry fog system). These shall be properly maintained and operated.
- Fixed auto sprinklers shall be provided on both sides of major haul road and approach road of the mine.
- 12. Mechanized wheel washing facility for the ore transport vehicles shall be provided at the exit points of the mine. The wheel washing facility shall be integrated with complete recirculation system.
- The vehicles carrying ore for transportation from the mine shall be covered with tarpaulin (both bottom & top).
- 14. Regular water sprinkling on mineral transportation roads passing through the habitation area as well as other strategic point on the National Highway shall be done jointly by the mining lessees in consultation with the Regional Officer.
- 15. Four Ambient Air Quality Monitoring Stations shall be established in core zone and buffer zone for monitoring of ambient air quality and location of the stations shall be decided in consultation with the Regional Officer, State Pollution Control Board based on the metrological data, topographical features and environmentally and ecologically sensitive targets.
- 16. The monitoring of ambient air quality shall be carried out twice in a week (24 hourly) at a particular site and the consolidated data shall be submitted to the State Pollution Control Board, once in a year.
- The ambient air quality shall remain within prescribed national ambient air quality standards.
- 18. Three Continuous Ambient Air Quality Monitoring Stations(CAAQMS), with data transfer facility to SPCB server shall be established in core and buffer zone within six months of issue of this order. The locations of these stations shall be decided in consultation with the Regional Officer, State Pollution Control Board, based on metrological data, topographical features and environmentally and ecologically sensitive targets. Till installation of all



CONSENT ORDER SHORADDARGE AND AND AND THE REACH OF VIEW AND COMMITTAL SUPPORT STEEL SHOW LTD

CAAQMS, manual ambient air quality monitoring shall be carried out at 04 places, as stipulated sl. No. 15 and 16.

- 19. Fugitive Dust Emission Monitoring shall be carried out at the places as stated in Part-B of this order. The monitoring of fugitive dust shall be carried out twice in a week (24 hourly) at a particular site and consolidated data shall be submitted to the State Pollution Control Board, once in a year.
- 20. The top soil generated shall be stored at earmarked site (s) only and stabilized with plantation or shall be used for land reclamation and plantation.
- 21. The over burden generated during the course of mining shall be stacked at earmarked dump site (s) and stabilized with plantation or used for reclamation of excavated land followed by plantation.
- The project proponent shall ensure that no natural watercourse and / or water resources are obstructed due to any mining operations.
- 23. Check dams and check weirs shall be constructed at appropriate places of the mine lease area to prevent direct flow of runoff to nearby water bodies. The surface runoff water from the runoff management system shall be adequately treated to meet the prescribed standards as stated in SI. 2 of Part-A of this order.
- 24. Retention wall shall be constructed at the toe of topsoil dump and OB dump. Garland drain shall be constructed around topsoil dumps, over burden dumps, mineral stack yards and railway siding area terminating at settling pit to prevent direct disposal of runoff to nearby water bodies.
- 25. Garland drain and sedimentation pit shall be de-silted after monsoon or as and when required. The runoff discharge quality from runoff management system shall meet the standards prescribed as stated in SI. 2 of Part-A of this order.
- 26. Domestic effluents shall be treated in a sewage treatment plant (STP) and or shall be discharged to soak pit via septic tank constructed as BIS specification. The treated wastewater quality of STP shall remain within the following standards and shall be used for plantation:



CONSENT ORDER CHOMABHURAN, BAGANAHI HON CHEDICOC OF INS. AND LODGED THE INDIA LTD

pН		6.5 -9.0
TSS	4	<100 mg/l
BOD		30 mg/l
Fecal Coliform		<1000 MPN/100 ml.

- ETP shall be provided for workshop and wastewater generated during mining operation. The quality of the treated wastewater shall conform to the prescribed standard. (Part-A, SI. No.2).
- 28. Regular monitoring of water quality of upstream and downstream of surface water bodies existed if any within 5 Km shall be carried out once in every month and record shall be maintained and submitted to the State Pollution Control Board once in every year. Monitoring shall be carried out through MoEF & CC accredited laboratory.
- 29. Regular monitoring of ground water level and quality should be carried out by establishing a network of existing wells. The monitoring should be done four times a year in pre-monsoon (April/May), monsoon (August), post-monsoon (November) and winter (January) seasons. Data thus collected should be submitted to the Board quarterly.
- 30. The mine shall take necessary action for compliance with the air and water quality standards as stipulated in Part-A and Part-B of this order.
- Adequate measures shall be taken for control of noise levels below the following limits.

(6.00 AM - 9.00 PM) - Leq 75 dB(A)

(9.00PM - 6.00 AM) - Leg 70 dB(A)

- 32. Ambient air quality monitoring data, noise monitoring data and water / wastewater quality monitoring data shall be electronically displayed at the entry point of the mine or at a suitable location of the mine.
- 33. Plantation of trees shall be undertaken in the colony/ township, over top soil dumps, OB dumps, along the side of haul road and in other areas of the mines not being utilized for mining activities. The mine shall take up avenue plantation and plantation in nearby village areas in consultation with



DFO/Horticulture Department. The plantation details shall be submitted to the Board before end of April every year.

- A copy of the annual return (annual return submitted to IBM, Govt. of India/ Directorate of Mines, Govt. of Odisha) shall be submitted to this Board every year.
- 35. The environmental statement report shall be submitted to the Board in prescribed format every year.

MEMBER SECRETARY STATE POLLUTION CONTROL BOARD, ODISHA

TO,

RAMAKRISHNA CHINNAMSETTY, AUTHORISED SIGNATORY GHORABHURANI-SAGASAHI IRON ORE BLOCK OF M/S. ARCELORMITTAL NIPPON STEEL INDIA LTD 3A, 3RD FLOOR, FORTUNE TOWER, CHANDRASEKHARPUR, BHUBANESWAR-751013

Memo No	D. /D1. /
Copy for	warded to :
i)	Regional Officer, State Pollution Control Board, Rourkela.
ii)	District Collector, Sundargarh
iii)	Director of Mines, Govt. of Odisha, Bhubaneswar
iv)	Director, Environment-cum-Special Secretary, F & E. Deptt. Govt. of Odisha
	Bhubaneswar,
V)	D.F.O Bonai
vi)	Deputy Director of Mines, Koira
vii)	Chief Env. Engineer (C) (Hazardous waste management cell)
viii)	Chief Env. Scientist, Central Lab. SPCB, Bhubaneswar
ix)	Consent Register
100200	1

CHIEF ENV. ENGINEER (M) STATE POLLUTION CONTROL BOARD, ODISHA



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CONSENT ORDER

GENERAL STANDARDS FOR DISCHARGE OF ENVIRONMENTAL POLLUTANTS



CONSENT ORDER

GENERAL STANDARDS FOR DISCHARGE OF ENVIRONMENTAL POLLUTANTS PART –A : EFFLUENTS

SI.No.	Parameters	Standards					
	•	Inland surface	Public sewers	Land for irrigation	Marine Costal Areas		
-		(a)	(b)	(c)	(d)		
	Colour&odour	Colourless/Odou riess as far as practible		See 6 of Annex-1	See 6 of Annex-1		
	Suspended Solids (mg/l)	100	600	200	For process wastewater – 100 b. For cooling water effluent 10% above total suspended matter of influent.		
3.	Particular size of SS	Shall pass 850					
5.	pH value	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0		
6.	Temperature	Shall not exceed 5°C above the receiving water temperature			Shall not exceed 5°C above the receiving water temperature		
7.	Oil & Grease mg/l max	10	20	10	20		
8.	Total residual chlorine	1.0			1.0		
9.	Ammonical nitrogen (as N) mg/l max.	50	50	******	50		
10.	Total Kajeldahl nitrogen (as NH ₃) mg/1 max.	100			100		
11.	Free ammonia (as NH ₃) mg/1 max.	5.0			5.0		
12.	Biochemical Oxygen Demand (5 days at (20°C) mg/1 max.	30	350	100	100		
13.	Chemical Oxygen Demand, mg/1 max.	250		******	250		
14.	Arsenic (as As) mg/1 max	0.2	0.2	0.2	0.2		
15.	Mercury (as Hg) mg/1 max.	0.01	0.01		0.001		
16.	Lead (as pb) mg/1 max	c 01.	1.0		2.0		



CONSENT ORDER EHORABHURAMEDADATAHI BEX CELE BLOCH OF HEL ABGELORVITTAL METRIA STEEL INDIA LTD

17.	Cardmium (as Cd) mg/1 max.	2.0	1.0		2.0
18.	Hexavalent Chromium (as Cr + 6) mg/l max.	0.1	2.0		1.0
19,	Total Chromium (as Cr) mg/l max.	2.0	2.0		2.0
20.	Copper (as Cu) mg/l max.	3.0	3.0		3.0
21.	Zinc (as Zn) mg/l max.	5.0	15		15
22.	Selenium (as Sc) mg/l max.	0.05	0.05	********	0.05
23.	Nickel (as Nil) mg/l max.	3.0	3.0		5.0
24.	Cyanide (as CN) mg/l max.	0.2	2.0	0.2	0.02
25.	Fluoride (as F) mg/l max.	2.0	15		15
26.	Dissolved Phosphates (as P) mg/l max.	5.0			
27.	Sulphide (as S) mg/l max.	2.0			5.0
28.	Phennolic compounds as (C ₈ H ₅ OH) mg/l max,	1.0	5.0	******	5.0
29.	Radioactive materials a. Alpha emitter micro curle/mi. b. Beta emitter micro curle/mi.	10 ⁷ 10 ⁶	10 ⁷ 10 ⁶	10 ⁸ 10 ⁷	10 ⁷ 10 ⁸
30.	Bio-assay test	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent
31	Manganese (as Mn)	2 mg/l	2 mg/l		2 mg/l
32.	Iron (Fe)	3 mg/i	3 mg/l		3 mg/l
33.	Vanadium (as V)	0.2 mg/l	0.2 mg/l		0.2 mg/l
34.	Nitrate Nitrogen	10 mg/l			20 mg/l



CONSENT ORDER

NATIONAL AMBIENT AIR QUALITY STANDARDS

SI.	Pollutants	Time Weighed Average	Concentrate of Ambient Air			
No.			Industrial Residential, Rural and other Area	Ecologically Sensitive Area (notified by Central Government)	Methods of Measurement	
(1)	(2)	(3)	(4)	(5)	(6)	
1.	Sulphur Dioxide (SO ₂), µg/m ³	Annual * 24 Hours **	50 80	20 80	-Improved west and Gaeke	
2.	Nitrogen Dioxide (NO ₂), µg/m ³	Annual * 24 Hours **	40 80	30 80	 Modified Jacob &Hochheiser (Na-Arsenite) Chemiluminescence 	
3.	Particulate Matter (size less than 10µm) or PM ₁₀ µg/m ³	Annual * 24 Hours **	60 100	60 100	-Gravimetric - TOEM - Beta Attenuation	
4.	Particulate Matter (size less than 2.5µm) or PM _{2.5} µg/m ³	Annual * 24 Hours **	40 60	40 60	-Gravimetric - TOEM - Beta Attenuation	
5.	Ozone (O ₃) µg/m ³	8 Hours **	100 180	100	- UV Photometric - Chemiluminescence - Chemical Method	
6.	Lead (Pb) µg/m³	Annual * 24 Hours **	0.50	0.50	-AAS/ICP method after sampling on EMP 2000 or equivalent filter paper. - ED-XRF using Teflon filter	
7.	Carbon Monoxide (CO) mg/m ³	8 Hours ** 1 Hours **	02	02	 Non Dispersive Infra Red (NDIR) 	
8.	Ammonia (NH ₃) µg/m ³	Annual*	100	100	-Chemiluminescence - Indophenol Blue Method	
9.	Benzene (C _s H _e) μg/m ³	Annul *	05	05	-Gas Chromatography based continuous analyzer - Adsorption and Desorption followed by GC analysis	
10.	Benzo (a) Pyrene (BaP)-Particulate phase only, ng/m ³	Annual*	01	01	-Solvent extraction followed by HPLC/GC analysis	
11.	Arsenic (As), ng/m ³	Annual*	06	06	-AAS/ICP method after sampling on EPM 2000 or equivalent filter paper	
12.	Nickel (Ni),ng/m ³	Annual*	20	20	-AAS/ICP method after sampling on EPM 2000 or equivalent filter paper	

Annual arithmetic mean of minimum I04 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.
 24 hourle or 08 hourle of 1 hourle of 1

24 hourly or 08 hourly or 01 hourly monitored values, as applicable, shall be complied with 98% of the time in a year, 2% of the time, they may exceed the limits but not on two consecutive days of monitoring.

- ANING XVEE # 6

K. C. Naik Member Secretary

To

MEMBER SECRETARY



File No: - 21-4/1373/OR/MIN/2017

NOC No: - CGWA/NOC/MIN/ORIG/2018/3118

भारत सरकार केन्द्रीय भूमि जल प्राधिकरण जल संसाधन, नदी विकास और गंगा संरक्षण मंत्रालय

Government of India Central Ground Water Authority Ministry of Water Resources, River Development & Ganga Rejuvenation Date:- 07 FEB 2018

M/s Essar Steel India Ltd. Ghoraburhani Sagasahi Iron Ore Block Ore Club, Bhadrasahi Chowk, Near Bank of India ATM, Barbil, Block Joda, District Kendujhar, Odisha – 758035

Sub: - NOC for ground water withdrawal to M/s Essar Steel India Ltd., Ghoraburhani Sagasahi Iron Ore Block in respect of their proposed Iron ore project located at Village Ghoraburhani, Sagasahi and Kalmang, Block Koida, District Sundargarh, Odisha – reg.

Refer to your application on the above cited subject. Based on recommendations of Regional Director, Central Ground Water Board, South Eastern Region, Bhubaneswar vide their recommendations dated 15/09/2017 and further deliberations on the subject, the NOC of Central Ground Water Authority is hereby accorded to M/s Essar Steel India Ltd., Ghoraburhani Sagasahi Iron Ore Block in respect of their proposed Iron ore project located at Village Ghoraburhani, Sagasahi and Kalmang, Block Koida, District Sundargarh, Odisha. The NOC is, however subject to thefollowing conditions:-

 The firm may abstract 3,230 cu.m/day (not exceeding 11,78,950 cu.m/year) through proposed twenty (20) bore wells only. No additional ground water abstraction structures shall be constructed for this purpose without prior approval of the CGWA.

All the wells shall be fitted with water meter by the firm at its own cost and monitoring of ground water abstraction shall be undertaken accordingly on regular basis, at least once in a month.

3. M/s Essar Steel India Ltd., in consultation with the Regional Director, Central Ground Water Board, South Eastern Region, Bhubaneswar shall implement ground water recharge measures to the tune of 1,01,580 cu.m/year as proposed, for augmenting the ground water resources of the areas where post monsoon water level is more than 5 meter below ground level. Firm shall report compliance within six months from the date of issue of this letter. Firm shall also undertake periodic maintenance of recharge structures at its own cost.

4. The photographs of the recharge structures after completion of the same shall be furnished immediately to the Regional Director, Central Ground Water Board, South Eastern Region, Bhubaneswar for verification and under intimation to this office.

5. The firm at its own cost shall install three (3) observation wells (piezometer) fitted with digital water level recorder having telemetry system at suitable locations for monthly ground water level monitoring in consultation with the Central Ground Water

18/11, Jamnagar House, Mansingh Road, New Delhi-110011 Phone: (011) 23383561 Fax: 23382051, 23386743 Website: www.cgwa.noc.gov.in

रयाछ सुरसित जल - सुन्दर खुशहाल कल

CONSERVE WATER - SAVE LIFE

Board, South Eastern Region, Bhubaneswar, The firm shall share user ID and password with the Regional Director, Central Ground Water Board, South Eastern Region, Bhubaneswar.

The ground water quality shall be monitored twice in a year during pre- monsoon and post- monsoon periods.

7. The ground water monitoring data in respect of S. No. 2, 5 & 6 to be submitted to Central Ground Water Board, South Eastern Region, Bhubaneswar on regular basis at least once in a year.

8. The firm shall ensure proper recycling and reuse of waste water after adequate treatment.

Action taken report in respect of S. No. 1 to 8 may be submitted to CGWA within one year period.

10. The permission is liable to be cancelled in case of non-compliance of any of the conditions as mentioned in S. No. 1 to 9.

11. The firm shall report self compliance online in the website (www.cgwanoc.gov.in) within one year from the date of issue of this NOC.

12. This NOC is subject to prevailing Central/State Government rules/laws or Court orders related to construction of tubewell/ ground water withdrawal/ construction of recharge or conservation structures/ discharge of effluents or any such matter as applicable.

13. This NOC does not absolve the applicant / proponent of his obligation / requirement to obtain other statutory and administrative clearances from other statutory and administrative authorities.

14. The NOC does not imply that other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would consider the project on merits and be taking decisions independently of the NOC. 15. This NOC is valid from 24/01/2018 till 23/01/2020.

Member Secretary

Copy to:

- The Member Secretary, Odisha Pollution Control Board Paribesh Bhawan, A/118, Nilakantha Nagar, Unit - VIII, Bhubaneswar - 751012,Odisha with a request to ensure that the conditions mentioned in the NOC are complied by the firm in consultation with the District Collector & Magistrate, District Sundargarh, Odisha.
- The District Collector & District Magistrate, District Sundargarh, Odisha for necessary action.
- The Regional Director, Central Ground Water Board, South Eastern Region, Bhubaneswar. This has reference to your recommendation dated 15/09/2017.
- TS to the Chairman, Central Ground Water Authority, Shram Shakti Bhawan, Rafi Marg, New Delhi
- 5. Guard File 2017-18.

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1975-0

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Member Secretary



Ref. No : AMNS/MIN/SAG/01/2019 Dated : 10th June'2020

To

Director IA Division (Non-Coal Mining) Ministry of Environment, Forests & Climate Change Agni Wing, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi-110003

Ref : Proposal No : IA/OR/MIN/56152/2016

Sub : Compliance to the conditions for Environmental Clearance granted on 28th May'20202 for Ghoraburhani – Sagasahi Iron ore block of M/s ArcelorMittal Nippon Steel India Limited (Formerly Essar Steel India Limited)

Dear Sir

With reference to the subject cited above, we would like to inform you that in compliance to the condition mentioned in the Environmental Clearance granted on 28th May'2020 for Ghoraburhani – Sagasahi Iron ore block, we are hereby enclosing the copy of the advertisements published in following two local news paper on 31st May'2020 :

1. "Prameya" in Odia language

2. "New Indian Express (Sunday addition)" in English language

This is for your kind information & necessary action please.

Thanking You, Your's Sincerely

10/06/2020

Sabyasachi Mohanty (Authorised Signatory) ArcelorMittal Nippon Steel India Limited (Formerly Essar Steel India Limited)

Encls : As above

Gujarat 394270 India

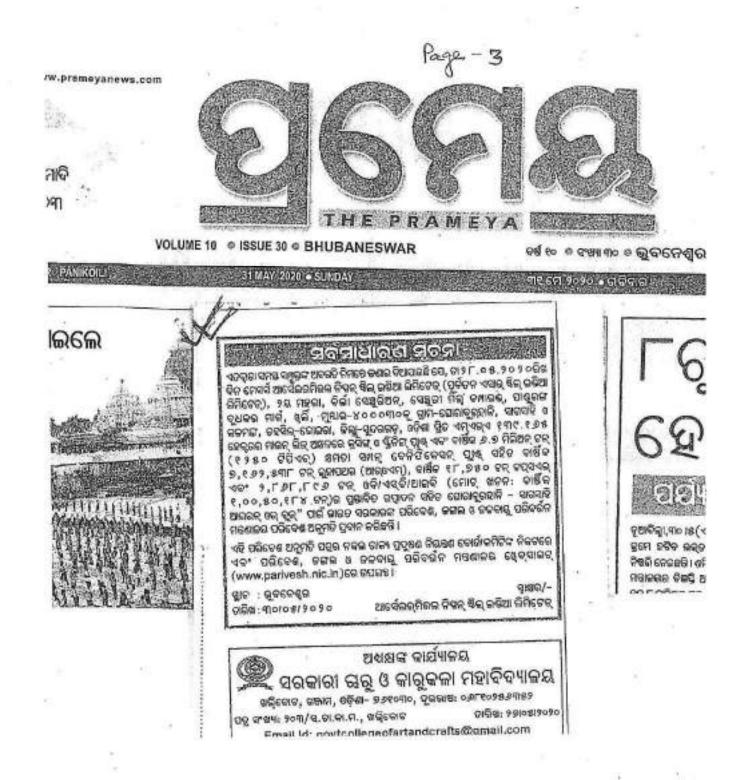
CIN U27100GJ1976FLC013787

CC to: The Joint Director, Ministry of Environment, Forest & Climate Change, Regional Office, A-3, Chandrasekharpur, Bhubaneswar - 751023

ArcelorMittal Nippon Steel India Limited (Formerly Essar Steel India Limited) Pellet Plant, Udayabata, Paradeep - 754 142 Dist.: Jagatsinghpur Odisha, India Regd. Off: 27km, Surat-Hazira Road, Hazira, Surat

T +91 67 2222 7076 E contact@amns.in W www.amns.in A joint venture between ArcelorMittal and Nppon Steel Corporation

ArcelorMittal





	GHORABURHANI SAGAS	AHI IRON ORE MINES						
	ENVIRONMENT CE							
	Period: April 2021 to							
SL.No.	Particulars	Capital Cost(in Lakh)	Recurring cost					
	Air Pollution Control Measures							
1	Mobile water Sprinkler	45,00,000	43,385					
	Dry Fog System	38,599	45,50.					
	Water pollution control Measures							
2	Sewage Treatment Plant(STP)	10,79,700						
	Culture Media for STP		4,44,270					
	Garland drain construction	28,800	4,44,270					
	Green Belt Development	20,000						
3	Plantation (ML Safety zone,Camp campus & road s/z)		20 71 000					
	Environmental Monitoring 20,71,800							
4	CAAQMS Instrument cost	35,00,000						
	Monitoring Analysis Charges	00,00,000	1 59 046					
5	Environment Cell 1,58,946							
	Salary		1 50 000					
6	Occupatioanal Health measures 1,50,000							
v	IME/PME	1	165000					
	GRAND TOTAL	91,47,099	30,33,401					

ENVIRONMENT CELL GSIOM, AMNS INDIA LTD

PROJECT HEAD GSIOM, AMNS INDIA LTD