



Ref. No.: MGM/P&E/15/23

Date: 03/Nov/2023

To,
The Additional Director,
Ministry of Environment and Forest & Climate Change,
Eastern Region Office,
A/3, Chandrasekharpur,
Bhubaneswar-751023

Subject: Submission of half-yearly compliance report on the stipulated environmental clearance terms and conditions in respect of Tiringpahar Iron and Manganese Mine of M/s TATA Steel Ltd., for the period from **April'2023 to September'2023.**

Reference:

- 1) MoEF Letter Ref No: J-11015/87/2004-IA. II(M) DATED 17th Nov 2005.
- 2) MoEF&CC's Office Memorandum vide File No. IA3-22/1/2022-IA-III [E- 172624] dt. 14th June 2022.

Respected Sir,

This has referenced to the ministry's above referenced Office Memorandum; we have been directed to submit the six-monthly compliance on the environmental conditions prescribed in the prior environmental clearance letter(s) through newly developed compliance module in the PARIVESH Portal from the respective login.

Accordingly, we are herewith uploading/submitting the six-monthly compliance report on the status of the implementation of the conditions stipulated in environmental clearance awarded to us vide ministry's letter Ref No: - **J-11015/87/2004-IA. II(M) DATED 17th Nov 2005** in respect of Tiringpahar Iron and Manganese Mine of M/s Tata Steel for the period **from April'2023 to September'2023** for your kind perusal.

We believe the above submission is in order.

Thanking You

Yours Faithfully

F: Tata Steel

Head
Mine & Production Planning
Tiringpahar Iron & Manganese Mines
Ferro Alloys Mineral Division

TATA STEEL LTD.

Ferro Alloys & Minerals Division, Manganese Group of Mines, At/P.O.: Bichhakundi, Via: Joda,
Dist: Keonjhar Odisha – 758 034 Tel.: 9238101370, e-mail : mnmminesadmin@tatasteel.com
Regd. Office : Bombay House, 24 Homi Modi Street, Mumbai – 400 001 Tel 912266658282, Fax 912266657724
Corporate Identity Number L27100MH1907PLC000260 website : www.tatasteel.com



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Ministry of Environment, Forest and Climate Change



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View Compliance Report at Project Proponent

Proposal Details

Proposal No

IA/OR/MIN/11666/2005

Category

Non-Coal Mining

Name of Project

Tiringpahar Manganese Ore Mine of M/s Tata Steel, Dist. Keonjhar, State Odisha (Expansion in the Production of Manganese Ore from 0.43 LTPA to 0.85 LTPA)

Plot / Survey/ Khasra No.

Village(s)

Sub-District(s)

State

ODISHA

District

KENDUJHAR

MoEF File No

J-11015/87/2004-IA.II(M)

**Name of the Entity/
Corporate Office**

Tata Steel

Entity's PAN

NA

Entity Name as per PAN

NA

Entity details mentioned above is correct ?

Agree

Project KML

View on DSS

Covering Letter

Covering Letter

[Click to View](#)

Compliance Reporting Details

Reporting Year

2023

Reporting Period

01 Dec(01 Apr - 30 Sep)

Remark(if any)

Six Monthly EC Compliance in respect of Tiringpahar iron & Mn Mine Project: Metal Mining (Open Cast) Project Proponent: Tata Steel Limited.

Details of Production and Project Area

Date of Commencement of Project/Activity

01-04-1932

	Project Area as per EC Granted(ha.)	Actual Project Area in Possession(ha.)
Private	0	1.311
Revenue Land	98.486	34.515
Forest	70.514	133.17
Others	0	0
Total	169	168.99599999999998

PRODUCTION CAPACITY

Sr.No.	Name of the Product	Units	As per EC Granted	As per CTO Granted	CTO ID	Valid Up To	Production during last financial year
1	Manganese	Tons per Annum (TPA)	85000	85000	115	31-03-2025	63135

Conditions

Specific Conditions

Sr.No.	Condition Type	Condition Details	Status of Compliance,Remarks/Reason and Supporting Documents
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1	Statutory compliance	Mining shall not be undertaken in areas of forestland within the lease for which forestry clearance has not been obtained.	PPs Submission	<p>Tiringpahar Iron & Manganese Mine is presently operated for the production of Manganese Ore and consists of Mine Lease area (total) of 169.0 ha. Out of which, forest land and non-forest land prevails over 133.174 ha and 35.826 ha. respectively. The mine has been granted with Stage-II clearance/Final approval from the erstwhile Ministry of Environment & Forest, New Delhi vide Ministry's letter no. No 8-80/2004-FC dt 28.03.2007 for the diversion of 52.348 ha of forest land falling within the mine lease area. the company has been granted with stage-I (in-principle approval) for the forest diversion proposal over balance forest land of 80.826 Ha. Presently, Mining is carried out in restricted manner within the extent of stage-II diverted area of 145.329 ha, non-forestland of 15.605 ha and some portions of the broken up forestland (broken up prior to 1980). Complied Attachment: NA</p>
2	GREENBELT	Topsoil should be stacked properly with proper	PPs Submission	No top soil was generated during

slope at earmarked site(s) with adequate measures and should be used for reclamation and rehabilitation of mined out area.

the period April'23 to September'23 since mining has not advanced into any virgin land. Top Soil recovered during mining operation is concurrently being used for the development of plantation activities. However due to space constraints, practice of utilizing the top soil in concurrent reclamation and rehabilitation is followed to prevent loss of nutrient potential in the course of storing. However during intermittent storage of top soil at site it is ensured that top layer is provided with either coir mats and/or grassing and peripheral drainage system for arresting the erosion. Following measures are ensured at site for the top soil management: 1. Collection and storage of top soil at earmarked site(s) 2. Assessment of top soil for nutrient potential parameters such as pH, EC, CEC, OC, and N, P, K, etc. 3. Grassing as per feasibility if required 4. Accounting of utilization of top soil in the plantation.

				Complied Attachment: NA
3	WATER QUALITY MONITORING AND PRESERVATION	OB and other wastes should be stacked at earmarked sites only and should not be kept active for long periods of time. Plantation should be taken up for soil stabilization along the slopes of the dump and terraced after every 5-6 m of height and overall slope angle shall be maintained not exceeding 28°. Sedimentation pits shall be constructed at the corners of the garland drains. Retention/toe walls shall be provided at the base of the dumps.	PPs Submission	Mining and all its associated operational activities are ensured in line with the provisions of approved mining plan. Dedicated sites have been earmarked for storing overburden (OB) and other waste and/or minerals/ mineral rejects. The status thereof is updated in the surface plan on quarterly basis. The dump is terraced at every 5-6 mtrs and overall slope is maintained well within 28°. The dumps are stabilized by means of biological reclamation with the plantation of Vertiber grass on the slopes and native varieties of forestry saplings such as Sal, Neem, Mahaneem, Karanja, and others. Environmental Protection Measures ensured at site especially for the dump management aspects are as follows: 1. Network of Garland Drains and/or Toe Walls 2. Intermittent Sedimentation tanks/settling pits 3. Slope stabilization by means of coir matting and/or vertiber grass

plantation 4. Final rehabilitation measures by means of native varieties of forestry saplings both on the slope and benches of the dump. Photographs of dump management measures undertaken at site is enclosed. Complied Attachment: [Click to View](#)

4	WATER QUALITY MONITORING AND PRESERVATION	<p>Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The drains should be regularly desilted and maintained properly. Garland drains (size, gradient & length) and sump capacity should be designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material. Storm water return system should be provided. Storm water should not be allowed to go to the effluent treatment plant during high rainfall/super cyclone period. A separate storm water sump for this purpose should be created.</p>	PPs Submission	<p>Existing catch drains and garland drains have been constructed all along the periphery of dump at the toe. Size, gradient and length of the drains are adequate to take care of the peak flow. A series of check dams and settling pits have been provided for proper settlement of suspended solid in surface runoff. The garland drain, catch drains and sedimentation pits are periodically de-silted and maintained properly every year before the onset of monsoon. The mine management regularly inspect the compliance w.r.t various provisions of progressive mine closure plan (PMCP) especially for the dump stabilization and surface runoff associated aspects. The status thereof</p>
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is also filed in the form of PMCP returns annually to Indian Bureau of Mines for subsequent verification. The following measures at the mine level are ensured for adequate management of the silt and sediment flow associated environmental scenario for the OB, mineral dumps and other strategic locations such as:

1. Network of Garland Drains of size 2.5 mtr (Width) X 1.5 mtr (Depth) is constructed all along the periphery of dumps.
2. Series of check dams at strategic locations along the contour
3. Retention Wall (masonry walls) and/or Gabion walls of size 2m X 1m X 1m along the bottom of dump periphery
4. Coir matting using geotextile coir are being used for slope protection measures against erosion.
5. Periodic de-siltation of the siltation tanks and check dams before the onset of monsoon every year. During FY 23-24, total 289 mtrs of bund constructed at the toe of waste dumps.

Complied
Attachment: NA

5	WATER QUALITY MONITORING AND PRESERVATION	Dimension of retaining wall at the toe of OB dumps and benches within the mine to check run-off and siltation should be based on the rainfall data.	PPs Submission	<p>While designing network of garland drains, checkdams, retention walls and rain passes for slope protection as well as arresting silt and sediment during monsoon season, following factors are considered such as Rainfall (peak scenarios), catchment area, gradient slope and retention hours and accordingly, following measures at the mine level are ensured for adequate management of the silt and sediment flow associated scenarios for the OB, mineral dumps and other strategic locations such as:</p> <ol style="list-style-type: none"> 1. Network of Garland Drains of size 2.5 mtr (Width) X 1.5 mtr (Depth) 2. Series of check dams at strategic locations along the contour 3. Retention Wall (masonry walls) and/or Gabion walls of size 2m X 1m X 1m along the bottom of dump periphery <p>These dimensions are based on the assessment of net volume of runoff to be generated from and varies w.r.t sites. Photographs of such measures have been enclosed hereby.</p> <p>Complied</p>
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Attachment: [Click to View](#)

6

AIR QUALITY
MONITORING
AND
PRESERVATION

Trace Metals such as Ni, Co, As and Hg should be analyzed in dust fall and soil samples for at least one year during summer, monsoon and winter seasons. If concentrations of these metals are found below the standards then with prior approval of MOEF this specific monitoring could be discontinued.

PPs Submission

Trace metals like Ni, Co, As and Hg are monitored both in dust fall and soil samples on quarterly basis covering all the seasons. Environmental Monitoring activities are ensured by engaging an NABL accredited laboratory and also having requisite approval from the Ministry in this regard. Dust fall is analyzed for locations like sorting yard, project office premises and Near Haul roads and some village areas whereas soil samples from different land use locations such as OB dump, forestland, Parks & gardens and other areas like agricultural land (from peripheral villages) are analyzed for at least 15-20 parameters including the nutrient profile attributes together with the heavy metals. So far no adverse results have been observed in both the types of monitoring results. An abstract of dust fall analysis carried out during year

2023 is enclosed.
Complied
Attachment: [Click to View](#)

7

AIR QUALITY
MONITORING
AND
PRESERVATION

Mineral and OB transportation shall be in trucks/dumpers covered with tarpaulins. Vehicular emissions should be kept under control and regularly monitored. Suitable measures should be taken to check fugitive emissions from haulage roads & transfer points, etc.

PPs Submission

Mineral Transportation is ensured by by tippers and all the trucks are covered with tarpaulins before issuance of transit permits for their onward transportation. OB is handled within the mine lease area using shovel dumper combination. Following dust control measures are ensured for checking fugitive dust emissions: 1. Fixed Sprinkling System for the Haul Roads (existing 450mtrs) 2. Mist Canons at dumps/sorting yards 3. Automatic Wheel wash facility at the exit point of the mines 4. Dust suppression by means of mobile water tanker (capacity 12KI) deployed for dumping yard and other locations. 5. BCM type closed wagons for Dispatch through Railway siding is followed 6. Fixed sprinkling arrangement at siding Photographs of fugitive dust emission measures are enclosed herewith. Complied

8	GREENBELT	<p>A green belt of adequate width and area of 1.9 ha should be raised by planting the native species around ML area, and in addition plantation should also be carried out along roads, OB dump sites (21.996 ha) and in other areas within the lease (47.774 ha) covering a total area of 71.67 ha in consultation with the local DFO/ Agriculture Department. The density of the trees should be not less than 2500 plants per ha.</p>	PPs Submission	<p>Plantation activities are ensured in accordance with the provisions of Progressive Mine Closure Plan (PMCP); Besides, Tata Steel Limited has developed a site specific biodiversity management plan for the joda region for implementation of measures for protection and conservation of biodiversity in and around the mine. Salient features of afforestation measures is highlighted as follows: Types of Species (adopted for plantation): Native (non-exotic) forestry varieties No of Species: around 20-25 varieties such as Sal, Neem, Karanj, Mahaneem, Kusum, Aonla, Mahuwa, palash, etc. Present Status of Plantation/Rehabilitation: coverage of 34.277 Hect. with 184956 nos of saplings , 16.960 (Waste dump) rehabilitated so far (as on date) Status of Rehabilitation/Reclamation during FY 23-24: 1.20 Hect of waste dump rehabilitated. Safety Zone strengthening work is carried out with Bamboo Plantation scheme Dump slope stabilization is carried out using vertiber plantation. Status of Yearly plantation is also submitted to IBM in the form of Annual return in form G1. A copy of the same has been enclosed in relevant section. Few sample photographs of recent plantation and activities are enclosed here.</p>
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			Complied Attachment: Click to View		
9	Statutory compliance	Groundwater shall not be used for mine operations. Prior approval of CGWA shall be obtained for using groundwater.	<table border="1"> <tr> <td>PPs Submission</td> <td> <p>There is no ground water interaction for the mine. Neither any borewell is being used; nor there is any mine associated ground water seepage. There is no interception of the ground water table. Water is sourced from the adjacent mine i.e Bamebari Iron & Mn Mine (another mine of the company). There are separate permits ensured by Bamebari Mine management in this regard. Copy of NOC granted in respect of Bamebari mine is enclosed herewith. Mine seepage from Bamebari is used for haul road dust suppression and since there exist a common township for both the mines, thus ground water abstracted from bore wells of Bamebari mine is used for drinking and domestic consumption of the township and others.</p> <p>Complied Attachment: Click to View</p> </td> </tr> </table>	PPs Submission	<p>There is no ground water interaction for the mine. Neither any borewell is being used; nor there is any mine associated ground water seepage. There is no interception of the ground water table. Water is sourced from the adjacent mine i.e Bamebari Iron & Mn Mine (another mine of the company). There are separate permits ensured by Bamebari Mine management in this regard. Copy of NOC granted in respect of Bamebari mine is enclosed herewith. Mine seepage from Bamebari is used for haul road dust suppression and since there exist a common township for both the mines, thus ground water abstracted from bore wells of Bamebari mine is used for drinking and domestic consumption of the township and others.</p> <p>Complied Attachment: Click to View</p>
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10	MINING PLAN	Mining will not intersect groundwater. Prior permission of the MOEF and CGWA shall be taken	<table border="1"> <tr> <td>PPs Submission</td> <td>During the plan period i.e till 31-03-2025, it has been assessed that there</td> </tr> </table>	PPs Submission	During the plan period i.e till 31-03-2025, it has been assessed that there
PPs Submission	During the plan period i.e till 31-03-2025, it has been assessed that there				

		to mine below water table.		will be no ground water interaction in the mine. Ground water table has not been intercepted. It was ascertained in the detailed Hydrogeological Investigation carried out by M/s Geo Climatic Risk Solution Pvt. Ltd. Details of cross section of the mine and corresponding water level is enclosed herewith. Complied Attachment: Click to View
11	WATER QUALITY MONITORING AND PRESERVATION	Regular monitoring of ground water level and quality should be carried out by establishing a network of existing wells and constructing new piezometers. The monitoring should be done for quantity four times a year in pre-monsoon (April / May), monsoon (August). Post-monsoon (November) and winter (January) seasons and for quality in May. Data thus collected should be submitted to the Ministry of Environment & Forests and the Central Ground Water Authority quarterly.	PPs Submission	Tiringpahar Iron & Mn Mine does not have any ground water interaction. Neither there is any mine seepage nor any bore wells for abstraction of ground water. Thus, NOC has not been obtained from CGWA and accordingly there is no requirement for establishment of any piezometers. However, it's location being adjacent to the Joribar pit of Baemebari Mine, for which there exist a Piezometer with telemetric provisions. The credentials thereof (for the telemetry system) has been shared with CGWA for remote surveillance purpose. Besides, the environmental monitoring programm covers

the monitoring of ground water level in and around the peripheral villages for the purpose of which near about 100 wells (open dug wells and bore wells) were studied comprehensively in Joda region for developing understanding on the ground water situation in the valley. Abstract of Ground water monitoring results for 100 wells of Joda region is enclosed. Complied Attachment: [Click to View](#)

12	WATER QUALITY MONITORING AND PRESERVATION	Trace metals such as Fe, Cr+6, Cu, Se, As, Cd, Hg, Pb, Zn and Mn at specific locations for both surface water downstream and in ground water at lower elevations from mine area, shall be periodically monitored in consultation with the OSPCB and State Ground Water Board. Suitable treatment measures shall be undertaken in case levels are found to be higher than permissible limits.	PPs Submission	There is no ground water interaction of the tiringpahar mine. Water utilized is sourced from Bamebari mine which is adjoining to this mine. Both the mines share a common impact zone or buffer area. Abstract of water quality parameters in and around Tiringpahar Mine including the bore wells located inside Bamebari mine lease is enclosed hereby. Complied Attachment: Click to View
13	Statutory compliance	"Consent to Operate" should be obtained from SPCB before expanding mining activities.	PPs Submission	Consent To Operate (CTO) is obtained for the mine as applicable.

Presently, the mine is operated with a valid CTO granted by Odisha State Pollution Control Board which is valid till 31-March 2025. Scope of CTO: Production of Mn Ore for 85000 TPA and Operation of Mobile Screening Plant of 1X392 TPD and a crushing plant of 1X50TPH. Ref. CTO No. 115 issued vide OSPCB's letter bearing reference no. 536/IND/I/CON/190, dtd. 07-01-2022
Complied
Attachment: [Click to View](#)

14	Statutory compliance	<p>A Conservation Plan for conservation of endangered fauna including the Indian Elephant found in and around the mine area shall be prepared and implemented in consultation with identified agencies/institutions and with the State Forest Department. The Plan should be dovetailed with that prepared/under implementation/proposed for the endangered fauna found in the Reserve Forest in the buffer zone of the project site. The costs for the specific activities/tasks should be earmarked in the Conservation Plan and shall not be diverted for any other purpose. Year wise status of the implementation of the Plan and the expenditure thereon should be reported to the Ministry</p>	PPs Submission	<p>TSL has been undertaking Wildlife conservation measures in accordance with the financial outlays as per the approved Site-Specific Wildlife Conservation Plan (SSWLCP). The Plan has been approved by the PCCF (Wildlife) and Chief Wildlife Warden vide memo 7724/1WL-SSP-94/2015 dated 3rd Aug 2015 valid up to 2025. Site-specific wildlife conservation plan was prepared with a projection of implementation cost for Rs. 276.17 Lakhs. The pp has deposited a sum of Rs. 240.47 Lakhs with the state forest department towards implementation of approved provisions outside the mine lease area; whereas the provisions are implemented within the lease area by the company for which it has earmarked budgetary provisions of Rs. 35.70</p>
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of Environment & forests, RO, Bhubaneswar.

Lakhs. TSL has been implementing the suggested measures such as Solar fencing, along the boundaries of active quarries and also conducts awareness events on forest fire and other conservation themes for the forest infringed villagers. Besides, the company has deposited its contribution for the implementation of Regional Wildlife Management Plan prepared for Banai and Keonjhar region. Payments are made in line with the demand raised from the office of D.F.O, Keonjhar and are as follows: 1. Rs.25,20,385/- on 14.12.2005 vide SBI DD No -062994. 2. Rs. 859615.00 on 27.03.2013 vide SBI DD No.657488 3. Rs 38,87,000.00 on dated 30.07.2015 through RTGS bearing UTR No. HDFCR52015073005436903 Complied Attachment: NA

15	MINING PLAN	A Final Mine Closure Plan along with details of Corpus Fund should be submitted to the Ministry of Environment & Forests 5 years in advance of final mine closure for approval.	PPs Submission	A Final Mine Closure Plan (FMCP) shall be prepared in accordance with the provisions laid down under the "GUIDELINES FOR PREPARATION OF FINAL MINE CLOSURE PLANS" as prescribed by Indian Bureau of Mines. As per the provisions of MMDR Act and MCDR provisions, the FMCP (final mine closure plan) shall be verified for its effective implementation of before abandonment of a
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mine and requisite certificate from the authorized officer, as the case may be, to the effect that protective, reclamation and rehabilitation work in accordance with the FMCP or with such modifications as approved by the competent authority have been carried out before abandonment of mine will be obtained from IBM. The final mine closure plan along with details of Corpus fund/financial assurance amount as assessed by IBM shall be intimated to the Ministry of Environment & Forests in advance of final mine closure for approval. As per rule, FMCP is prepared 2 years in advance from the date of closure/life of the mine. So far Tiringpahar mine has deposited a sum of Rs. 5.6042 Cr Till 31.03.2025 in respect of 112.084 Hect. of mined out areas with the IBM in the form of Bank Guarantees towards financial assurance for the implementation of measures of PMCP and FMCP provisions. Agreed to Comply Attachment: [Click to View](#)

General Conditions

Sr.No.	Condition Heading	Condition Details	Status of Compliance,Remarks/Reason and Supporting Documents	
1	MINING PLAN	No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forests.	PPs Submission	<p>So far, Mining is carried out as proposed by using shovel-dumper combination. No wet beneficiation process being carried out in the project. Dry mobile screening with the help of a 1X392 TPD screen plant with 1X50TPH crushing plant is operated. However, mine has envisaged production of Iron Ore into his production scope and approval from the ministry is being sought for the same with the expansion plan.</p> <p>Application has been made to Ministry under EIA Notification, 2006 provisions and amendment thereof. Terms of Reference has been granted for the conduct of public hearing and preparation of draft EIA/EMP report. Public hearing for the said expansion plan has also been carried out. However, till final approval (EC) is not granted, no change to the existing mining (technology/method) shall be followed.</p> <p>Details of the operational activities are enclosed in the subsequent sections in the form of Annual return (Form-G1). Complied Attachment: NA</p>

2	MINING PLAN	No change in the calendar plan including excavation, quantum of manganese ore and waste should be made.	<p>PPs Submission</p> <p>Production and excavation quantum is regulated by the Mine Plan approved by Indian bureau of Mines (IBM). No change in the calendar plan has been made. Total annual production achieved from the mine is well within the EC limit of 85000 tonnes per annum. Moreover, this is also in compliance with Ministry's OM dtd. 14th May 2020 regarding flexibility in production irrespective of calendar plan. Annual production of the mine has been duly certified by Dy. Director of Mines and it is confirmed that production is well within the EC limit. A copy of annual return as submitted to IBM indicating the production figure as 63135 Tonnes during FY23-24 which is well within the EC limit of 85000TPA is enclosed herewith. (Ref. Part-VI, Sl. no.2) Complied Attachment: Click to View</p>
3	AIR QUALITY MONITORING AND PRESERVATION	Four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RPM. SPM, SO ₂ , NO _x . monitoring. Location of the stations should be decided based on the meteorological	<p>PPs Submission</p> <p>Ambient Air Quality is monitored by establishing a network of 04 nos of dedicated AAQ stations within the core zone. The monitoring locations were established in consultation with Regional Office, State Pollution Control Board (Keonjhar Region). Photographs of fixed type platforms properly geotagged with the</p>

		<p>data, topographical features, and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Data on ambient air quality (RPM, SPM, SO₂ & NO_x.) should be regularly submitted to the Ministry including its Regional office at Bhubaneswar and the State Pollution Control Board Central Pollution Control Board once in six months.</p>		<p>spatial coordinates have been shared with State Pollution Control Board and the same was accepted to SPCB during renewal of CTO. Ambient Air Quality parameters are monitored on weekly basis (twice in a week) for both core and buffer zone. Abstract of Ambient Air Quality monitoring result for the period during April'23 to Sep'23 is enclosed herewith. Complied Attachment: Click to View</p>
4	AIR QUALITY MONITORING AND PRESERVATION	Drills should be wet operated or with dust extractors and controlled blasting should be practiced.	PPs Submission	<p>Wet drilling concept is already in place and practiced. Exploratory drills have been provided with inbuilt DE system. Controlled blasting technique with NONEL is in practice. Blasting parameters are assessed periodically by engaging agency like CIMFR, Dhanbad. Latest report on the control blasting is enclosed herewith. Complied Attachment: Click to View</p>
5	AIR QUALITY MONITORING AND PRESERVATION	Fugitive dust emissions from all the sources should be controlled regularly monitored and data recorded properly. Water spraying arrangements on haul roads, wagon	PPs Submission	<p>All the dust prone areas are adequately sprinkled by mobile sprinklers. Additionally, the mine management has also installed fixed-type water sprinklers along haul road at Joribar Quarry over 1250 mtrs. Following measures are ensured</p>

loading, dumpers/ trucks, loading & unloading points should be provided and properly maintained.

for containment of fugitive dust emission:
 1. Mobile water tanker (cap-12Kl) for Haul Roads and Dump yards and other locations) 2. Mist Canons (30 LPH) for sorting yards and screening plants 3. Automatic Wheel wash facility at Railway Siding and exit point of the mines 4. Misting arrangement at the screen plants.
 Photographs reflecting the status of pollution control measures (fugitive dust) deployed at the mine is enclosed herewith. Besides, Monitoring of fugitive dust concentration at several work places such as Haul Road, Sorting Yard, Screen Plant Area are periodically conducted to assess the situation and take corrective action if required.
 Complied
 Attachment: [Click to View](#)

6	Noise Monitoring & Prevention	<p>Adequate measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in blasting and drilling operations, operations of HEMM, etc. should be provided with ear plugs/ muffs.</p>	PPs Submission	<p>Ear plugs & Earmuffs are provided to the workers working in mining operation & DG operations and other high noise generating equipment's. Beside, Provision of acoustic enclosures are invariably ensured before the installation of such noise generating instruments. Besides, following monitoring measures are also ensured for the regulation of noise pollution associated impacts: 1. Monitoring of Noise level (both ambient noise survey)</p>
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and workplace noise survey is carried out on monthly basis using an integrated sound level meter. 2. Occupational Noise Exposure assessment is also carried out for the persons engaged in high noise generating areas on quarterly basis by sampling individual workers over eight-hour durations. Photographs of Noise Monitoring (Ambient and Occupational Noise Exposure Assessment) is enclosed herewith. Complied
Attachment: [Click to View](#)

7	WATER QUALITY MONITORING AND PRESERVATION	In Industrial waste water (workshop and waste water from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19 th May, 1993 and 31 st December 1993 or as amended from time to time. Oil and grease trap should be installed before discharge of workshop effluents.	PPs Submission	Tiringpahar Iron & Mn Mine is located in adjacent to Bamebari Iron & Mn Mine. Both the mines share common boundary and falls within the same management control of the company. Therefore, there exist common facilities such as township, STP, Workshop (HEMM maintenance facility), HW storage shed catering to the needs of both the mines. Tiringpahar Mine has no exclusive water interaction. Neither there is any mine seepage nor there is any source for waste water generation. Thus, scope for undertaking water samples for testing and analysis is remote. However, the same measures are ensured for Bamebari Mine. Abstract of the workshop effluent and
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STP (from the common township) are enclosed herewith.
 Complied
 Attachment: [Click to View](#)

8	MISCELLANEOUS	Environmental laboratory should be established with adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board.	PPs Submission	<p>Environmental Monitoring services are carried out by engaging a third party NABL Accredited agency having it's laboratory recognized by Ministry of Environment, Forest & Climate Change. Though no captive laboratory has been established at site but the entire services is outsourced to the agency with the following provisions. A centralized contract to third party is placed for three manganese mines of the company. Mode of Contract is as follows: Period of Contract: 03 years (renewed every three years) Scope of Contract: Establishment of an onsite laboratory with facilities for parameters like BOD, COD, all titrimetric parameters, Uv-VIS spectrophotometer, Weather Stations on real-time basis (3 units), In-situ water testing Kit, pH meter, Turbidity meter, EC meter, Noise meter, CO analysers, portable dust samplers, Personnel Dssimeter, Respirable Dust Samplers (13 Sets), etc. Scope for Services: Sampling, analysis and reporting Manpower: Around 10 personnel's dedicated for field sampling and 05</p>
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personnel for onsite laboratory analysis purpose. The laboratory extends services to three mines namely Joda West Iron & Mn Mine, Bamebari Iron & Mn Mine and Tiringpahar Iron & Mn Mine being operated under the same management control. Complied
Attachment: NA

9	Human Health Environment	<p>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. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.</p>	PPs Submission	<p>Personnel Protective Equipment's (PPEs) are being mandatorily used by all the workers as per applicability. It is regularly ensured at the entry points. Safe Operating Procedure based training is imparted to all the workers apart from the initial VT training. Besides, following measures are ensured at mine level for the occupational safety and health improvement perspective: 1. Periodical Medical Examination of employees (departmental & contractual) are conducted as per prescribed norms of Mines Rule, 1955. 2. Initial and periodical examination includes blood haematology, blood pressure, detailed cardiovascular assessment, neurological examination etc. 3. Chest radiographs are being classified for detection of pneumoconiosis, diagnosis and documentation made in accordance to ILO</p>
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classifications. 4. Conduct of wellness sessions and Six-Directional Hazard based training sessions are regularly conducted. 5. To ensure every worker is safe at the workplace, a provision of surakshya card and work permits have been designed to ensure the work is carried out with utmost safety aspects in consideration. On Monitoring fronts, Occupational health surveillance assessment as mentioned below are also carried out: 1. Personal Dust Sampling & Free Silica exposure assessment by a DGMS approved agency. 2. Hand-Arm Vibration & Whole-Body Vibration Exposure Assessment report by a DGMS approved laboratory 3. Mn Toxicity exposure assessment test (periodic) by a medical laboratory. A copy of latest Mn Toxicity exposure assessment report is enclosed here with. No adverse findings have been observed in the assessment. Complied Attachment: [Click to View](#)

10	Corporate Environmental Responsibility	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	PPs Submission	The company has ensured following measures for effective management of Environmental Protection. 1. Environmental Policy 2. Establishment of Environmental Management Department (EMD) 3.
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		Head of the Organization.		<p>Provision of onsite testing laboratory (on third party basis 4. Software solution for tracking and reporting of Non-Compliances if any observed w.r.t operational units The company has made a robust arrangement for reviewing and monitoring the implementation of Environment management plan by Centralized Environmental Management Department, headed by the Chief, Environment and supporting staff. The operation and legal sections include Head, Mine & Production Planning, Head, Environment, Senior Manager - Mine Planning, Senior Manager - Environment, Environment Engineer, Chemists, etc. Complied Attachment: Click to View</p>
11	Corporate Environmental Responsibility	The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry and its Regional Office located at Bhubaneshwar.	PPs Submission	<p>A dedicated cost Centre for maintaining all environmental expenditure is maintained in a separate GL account having a unique cost center mapped in the SAP system. All sorts of environmental protection related expenditures are booked in the said cost center for accounting purpose. Complied Attachment: NA</p>

12	MISCELLANEOUS	The Regional Office of this Ministry located at Bhubaneswar shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data/ information/ monitoring reports.	PPs Submission	The company has been extending full co-operation to the officers of the Regional Office and other statutory agencies by furnishing the requisite data / information / monitoring reports as and when required. The same shall be continued in future as well. Complied Attachment: NA
13	PUBLIC HEARING	A copy of clearance letter will be marked to the concerned Panchayat/local NGO, if any, from whom suggestion/ representation has been received while processing the proposal.	PPs Submission	A Copy of the Environmental clearance letter was communicated with Sarpanch, Gram Panchayat, Jajang on 12.01.2006. Complied Attachment: NA
14	Statutory compliance	The State Pollution Control Board should display a copy of the clearance letter at the Regional Office, District Industry Centre and Collector's Office/Tehsildar's Office for 30 days.	PPs Submission	The action was required to be ensured by the State Pollution Control Board. Complied Attachment: NA
15	Statutory compliance	The project authorities should advertise at least in two local newspapers widely circulated around the project, one of which shall be in the vernacular of the locality	PPs Submission	A copy of the Environmental Clearance letter, granted in favour of Tiringpahar Iron & Manganese Mine was published in Oriya News Papers Anupam Bharat & Aam Khabar dated 10.01.2006.

concerned within seven days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and may also be seen at Web Site of the Ministry of Environment & Forests at <http://envfor.nic.in> and a copy of the same should be forwarded to the Regional Office of this Ministry located at Bhubaneswar.

Complied
Attachment: NA

Document uploaded by the PP

Last Site Visit Report (if available)

NA

Last Site Visit Report Date (if available)

Additional Attachment (if any)

NA

Additional Remarks (if any)

- I 'Tata Steel' hereby give undertaking that the data and information given in the filed compliance and enclosures are true to be best of my knowledge and belief and I am aware that if any part of the data and information found to be false or misleading at any stage, the clearance given to the project will be revoked at our risk and cost. In addition to above, I hereby give undertaking that no activity such as change in project layout, construction, expansion, etc. has been taken up without due approval.

Cover Letter From RO/SRO

Cover Letter From RO/SRO

NA

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