

No. J-11015/373/2010-IA.II (M)  
Government of India  
Ministry of Environment & Forests

Paryavaran Bhawan,  
CGO Complex, Lodhi Road  
New Delhi-110003  
Dated: 03<sup>rd</sup> March, 2014

To,

The General Manger  
Jharia Division, Tata Steel Ltd.,  
PO; Jamadoba, Dist. Dhanbad  
Jharkhand - 828112

**Sub.: Expansion of 6 & 7 Pits colliery (from 0.28 MTPA to 0.6 MTPA in an ML area 168.12 ha) of M/s Tata Steel Ltd., Village Jamadoba, tehsil Jharia, dist. Dhanbad, Jharkhand - Environment Clearance – reg.**

Sir,

This is with reference to letter no. TSLDEI/406/2010 dated 04.11.2010 with the application for Terms of Reference (TOR) and this Ministry's letter dated 09.02.2011 granting TOR. Reference is also invited to the letter no TSLDEL/814/2012 dated 11.01.2013 and subsequent letter nos. dated 26.06.2013; and 10.09.2013 for environmental clearance on the above-mentioned subject.

2. The Ministry of Environment & Forests has considered the application. It is noted that the proposal is for grant of Environmental Clearance for expansion of 6 & 7 Pits colliery (from 0.28 MTPA to 0.6 MTPA in an ML area 168.12 ha) of M/s Tata Steel Ltd., Village Jamadoba, Tehsil Jharia, Dist. Dhanbad, Jharkhand. The proposal was considered in the 73<sup>rd</sup> EAC meeting held on 6<sup>th</sup> – 7<sup>th</sup> May, 2013 and reconsidered in the 5<sup>th</sup> EAC meeting held on 25<sup>th</sup> - 26<sup>th</sup> November 2013. The proponent has informed that:

- i. It is an expansion of 6 & 7 Pits colliery (from 0.28 MTPA to 0.6 MTPA in an ML area 168.12 ha). 6 & 7 Pits Colliery sends its raw coal to Jamadoba coal washery to produce clean coal.
- ii. The Ministry issued the TOR, vide letter no J-11015/373/2010-IA.II(M) dated 09-02-2011.
- iii. The project is in the process of expansion of production capacity of its mines to meet the coal demand at Jamshedpur. The demand for steel-grade coal after expansion of the integrated steel plant at Jamshedpur (from 6.8 MTPA to 10 MTPA) has been estimated to be 7.30 MTPA. Therefore, it is imperative to expand the capacity of the mines to enhance the coal dispatch to Tata Steel plant to meet the increased demand.
- iv. The land usage of the project will be as follows:

Sl No	Type of Land	Pre-mining	Post-mining	Core area
		Area (Ha.)		
1	Land under office building	10.03	0	-

2	Land under bungalow, colony, etc.	19.79	0	-
3	Land under village	32.46	32.46	-
4	Area for plantation and park	10.29	10.29	-
5	Land used for playground and storage of waste disposal of colony and bastee	10.69	10.69	-
6	Land under rail and road network	40.80	40.80	-
7	Land under agriculture	42.06	42.06	-
8	Land under JSEB substation and coal board bunker	2.00	2.00	
	<b>Total</b>	<b>168.12</b>	<b>138.3</b>	<b>168.12</b>

- v. The total geological reserve is 34.05 MT. The mineable reserve is 28.05 MT, extractable reserve is 11.09 MT. The per cent of extraction would be 30 % for overall seam and 80% within the panel. The coal grades are W-II to W-IV. Average Gradient is 1 in 7 (8<sup>0</sup> 8'). There will be total five seams. The thickness of seams ranges between 2.94 m to 7.31 m. Maximum thickness of seams 7.31 m.
- vi. Damodar River flows at a distance of 3000mtrs from lease boundary, There is no diversion of river/streams or natural drain.
- vii. The total water requirement is 11456 KL/Day (7637 KL/Day to be used for stowing purpose which is recycled and sent back to underground) ground water level ranges between 2.78 – 7.98 m bgl.
- viii. The method of mining will be by semi-mechanized underground Board & Pillar system using SDLs (Side Discharge Loaders) and LHDs (Load Haul Dumpers). Introduction of new technologies like Continuous Miner will allow the capacity of the project to be enhanced.
- ix. There would be no OB dumps.
- x. The seasonal data for ambient air quality has been documented for the one season April' 11 to June' 11. Some of the data recorded (PM<sub>10</sub> values) are above limits but overall the results are within prescribed limits.
- xi. Life of the mine is 26 years.
- xii. This is underground mine. Therefore no void is envisaged.
- xiii. **Transportation:** Coal transportation to washery is done through a network of underground belt conveyor system and hence there is no surface transportation of coal. Transport of man from surface to underground will be via shaft. The material transport is done through the shaft and by means of haulage in the underground.
- xiv. **Cost:** The total capital cost is Rs. 21.00 Crore. This cost is included in the final cost of production of steel. CSR Cost is Rs. 5 Crore for Jharia Division. Environmental Management cost is Rs 85 Lakhs.  
Approval of mine plan has been obtained, vide 30411/(20)/2009-CPAM dated 08.03.2010. Mine closure approval is under progress. Progressive MCP has been approved.
- xv. **Wildlife issues:** There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
- xvi. There is no involvement of forest land.
- xvii. There will be no displacement of the population will be required in the proposed project and therefore no R&R Policy is required. The mine is an old working mine.
- xviii. **CSR activity:** The thrust areas for CSR activities in Jharia Division are income Generation Programme (Including Agriculture Extension), Health & Hygiene, Empowerment (Including SHG Development, Employability Training etc.), water supply network for surrounding villages & Infrastructure Related Jobs.

- xix. The CSR expenditure budget for FY14 is about Rs. 5 crores. This expenditure will include the expenditure required to comply with the above assurances.
- xx. The afforestation/ green belt development takes place every year on the open surface within leasehold areas.
- xxi. **Violation/Court Case:** There are no court cases/ violation pending with the project proponent.
- xxii. **Public Hearing:** The public hearing was held on 22.09.2012 at Dhanbad. The issues raised in the viz. cracks in houses due to blasting; transportation of raw coal to washery; sand spillage and roads getting damaged during sand transport. Pollution to be minimized; scope of mine fires in mines; lowering of water table due to increasing depth of underground mines, water sprinkling in all the nearby roads; dust pollution near hospital due to rampant truck transportation; pollution due to nearby ash dumps; water from washery reaches our ponds and pollutes it; threat of subsidence due to underground mining; water-logging issues in monsoons near magazine area; spillage of ash from trucks etc.

3. The proponent has further informed that:

- i. Jharia coal field is the only coking coal field of the country wherein mining started way back in 1896. There are total 18 seams which are coupled with number of geological distribution in the coal field and were operated by different companies.
- ii. As per CGWB, the stage of ground water depletion in the Dhanbad district is around 30%. The highest stage of development is in Dhanbad city (58%) and Jharia (53%) blocks and hence it is in the “safe” category. The water table in the wells of the study area varied from 3.99 m to 9.89 m during month of May and 2.11 m to 3.98 m in November, However, depth of water level rises in monsoon season to a minimum level. Detailed hydrological study has been carried out by CIMFR, Dhanbad The Net annual ground water recharge is 30.49 MCM/annum. Ground water net irrigation use 0.26 MCM/annum. And Community use 6.46 MCM/annum. Net Mines discharge 0.02 MCM/annum. Therefore balance available annual ground water recharge 23.75 MCM/annum.
- iii. As part of CSR, Tata Steel is providing huge quantity of drinking water through water pipeline as well as water tankers to the villagers. The proponent has plan to connect all the villages in the leasehold area with water pipeline connection.
- iv. A pilot plant to convert mine water into drinking/ domestic water to supply the same to the population of Dhanbad and surrounding areas has been aunched at Moonidih Coal Mining area by National Mission Project by CSIR In order to increase ground water recharge. Tanks/ponds are regularly cleaned and maintained, under CSR, Plantation activities in the mine areas contain the surface runoff help to increase the ground water recharge.
- v. Occupational Health Department, of the Proponent conducts health check up every year for the workers in the colliery. Major occupational health concern are hypertension and CVS diseases. Water-borne diseases are non-existent in the community.
- vi. TSRDS undertakes various CSR activities in over 30 villages in the leasehold area over 15000 households covering a population of about 1.4 lakh. The benefits have reached the people directly in the form of skill development, better infrastructure, improved standard of living, medical facilities, etc. The PP has incurred expenditure with respect to CSR activities in 2009-10 Rs. 91.17 lakhs, 2010-11 Rs. 86.79 lakhs, 2011-12 Rs. 100.43 lakhs, 2012-13 Rs. 503.00 lakhs and 2013-14 Rs. 271.75 lakhs (till September, 2013).
- vii. The trucks used for the transportation of fly ash and sand are properly covered using tarpaulin sheets. Larger trucks are engaged for reducing no of cycles. The reclamation of the ash dumps has been completed.
- viii. The PP has assured to explore the possibility of using mechanically covered trucks for the transportation of ash. Until then, the existing system of transporting via tarpaulin-covered trucks will continue.

- ix. About 10-12% of ash will be utilized for making bricks, tiles and it will be used in pavements, embankments and as road-filling material. Rest 88-90 % of ash has been earmarked for filling abandoned open cast mines.
- x. As desired by the EAC, no use of fly ash with sand will take place for stowing in underground mines.

4. The proposal was reconsidered in the Expert Appraisal Committee (EAC) (Thermal & Coal Mining) and recommended in its 5<sup>th</sup> meeting held on 26<sup>th</sup> – 25<sup>th</sup> November, 2013 for granting Environmental Clearance. The Ministry of Environment & Forests hereby accords environmental clearance for the above-mentioned **Expansion of 6 & 7 Pits colliery (from 0.28 MTPA to 0.6 MTPA in an ML area 168.12 ha) of M/s Tata Steel Ltd., Village Jamadoba, tehsil Jharia, dist. Dhanbad, Jharkhand** under the provisions of the Environment Impact Assessment Notification, 2006 and subsequent amendments thereto subject to the compliance of the terms and conditions mentioned below:

**A. Specific Conditions:**

- i. Adequate measures be taken so as to prevent and control of manifestation of health problems due to coal mining activities.
- ii. Adequate green belt shall be provided around coal handling and other areas.
- iii. Transportation of coal shall be by mechanically covered trucks.
- iv. No dumping of flyash in low lying areas and in mine voids are permitted.
- v. Utmost care be taken to prevent spillage of sand during transportation of sand.
- vi. No use of fly ash with sand will take place for stowing in underground mines.
- vii. The maximum production from the mine at any given time shall not exceed the limit as prescribed in the EC.
- viii. Regular monitoring of subsidence movement on the surface over and around the working area and impact on natural drainage pattern, water bodies, vegetation, structure, roads, and surroundings shall be continued till movement ceases completely. In case of observation of any high rate of subsidence movement, appropriate effective corrective measures shall be taken to avoid loss of life and material. Cracks shall be effectively plugged with ballast and clayey soil/suitable material.
- ix. If subsidence is found exceeding the permitted limits, then the landowners shall be adequately compensated with mutual agreement of the landowners.
- x. Mining shall be carried out as per statuette at a safe distance from the river/nallah flowing adjacent to the lease boundary.
- xi. High root density tree species shall be selected and planted over areas likely to be affected by subsidence.
- xii. Coal Extraction shall also be optimised in areas where agricultural production is continuing. Some pillars shall be left below the agricultural land. No depillaring & coal extraction should be carried out below habitation, H.T. Lines & beneath road, water bodies.
- xiii. Subsidence shall be monitored closely and if subsidence is found exceeding the permitted limits, then the landowners shall be adequately compensated with mutual agreement with the landowners.
- xiv. 3-tier plantation should be developed 2 km stretch of road from the mine using native species.
- xv. Garland drains (size, gradient and length) around the safety areas such as mine shaft and low lying areas and sump capacity shall be designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine sites. Sump capacity shall also provide adequate retention period to allow proper settling of silt material.

- xvi. Water sprinkling system shall be provided to check fugitive emissions from loading operations, conveyor system, haulage roads, transfer points, etc. Major approach roads shall be black topped and properly maintained.
- xvii. Coal transportation to washery shall be through a network of underground belt conveyor system and hence there is no surface transportation of coal. Transportation of men from surface to underground and back shall be via shaft. The material transport shall be through the shaft and by means of haulage in the underground.
- xviii. A progressive afforestation plan shall be prepared and implemented over the mine lease area acquired and shall include areas under green belt development, areas along roads, infrastructure, along ML boundary and township etc., by planting native species in consultation with the local DFO/Agriculture Department.
- xix. Regular monitoring of groundwater level and quality shall be carried out by establishing a network of existing wells and construction of new peizometers. The monitoring for quantity shall be done four times a year in pre-monsoon (May), monsoon (August), post-monsoon (November) and winter (January) seasons and for quality in May. Data thus collected shall be submitted to the Ministry of Environment & Forests and to the Central Pollution Control Board quarterly within one month of monitoring.
- xx. Acid Water Treatment Plant, volume of water to be treated and disposal of brine should be provided.
- xxi. Mine discharge water outside the ML shall be monitored, particularly for TDS and treated to conform to prescribed levels before discharge into the natural environment.
- xxii. The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource, in case water table shows a declining trend. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.
- xxiii. Besides carrying out regular periodic health checkup of their workers, 10% of the workers identified from workforce engaged in active mining operations shall be subjected to health checkup for occupational diseases and hearing impairment, if any, through an agency such as NIOH, Ahmadabad within a period of one year and the results reported to this Ministry and to DGMS.
- xxiv. The mining in the existing mines should be phased out after expiry of the current mining lease and after reclamation of mined over area. The operating mines may be analysed and monitored for compliance of conditions, bearing with movement of wildlife and until such time they are closed/phased out.
- xxv. Project specific CSR for an amount of Rs5/Tonne of coal production, as adjusted as per the annual inflation, should be provided for the CSR activities undertaken and the progress made thereon shall be uploaded annually on the company website. Monitoring of the impacts of activities under CSR shall be carried out periodically.
- xxvi. A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests 5 years in advance of final mine closure for approval.
- xxvii. The commitment made by the Proponent to the issue raised during Public Hearing shall be implemented by the Proponent.
- xxviii. Corporate Environment Responsibility:
  - a) The Company shall have a well laid down Environment Policy approved by the Board of Directors.
  - b) The Environment Policy shall prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.

- c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions shall be furnished.
- d) To have proper checks and balances, the company shall have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.

**B. General Conditions:**

- i. No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment and Forests.
- ii. No change in the calendar plan of production for quantum of mineral coal shall be made.
- iii. Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub> monitoring. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc carried out at least once in six months.
- iv. Data on ambient air quality (PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub>) and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly submitted to the Ministry including its concerned Regional Office and to the State Pollution Control Board and the Central Pollution Control Board once in six months. Random verification of samples through analysis from independent laboratories recognised under the EPA rules, 1986 shall be furnished as part of compliance report.
- v. Adequate measures shall be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with ear plugs/muffs.
- vi. Industrial wastewater (workshop and wastewater from the mine) shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19<sup>th</sup> May 1993 and 31<sup>st</sup> December 1993 or as amended from time to time before discharge. Oil and grease trap shall be installed before discharge of workshop effluents.
- vii. Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transporting the mineral shall be covered with tarpaulins and optimally loaded.
- viii. Monitoring of environmental quality parameters shall be carried out through establishment of adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board and data got analysed through a laboratory recognised under EPA Rules, 1986.
- ix. Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects.
- x. Occupational health surveillance programme of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and to take corrective measures, if needed and records maintained thereof. The quality of environment due to outsourcing and the health and safety issues of the outsourced manpower should be addressed by the company while outsourcing.
- xi. A separate environmental management cell with suitable qualified personnel shall be set up under the control of a Senior Executive, who will report directly to the Head of the company.
- xii. The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to this Ministry and its concerned Regional Office.
- xiii. The Project authorities shall advertise at least in two local newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality concerned within seven days 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 the website of the ministry of Environment & Forests at <http://envfor.nic.in>.

- xiv. A copy of the environmental clearance letter shall be marked to concern Panchayat/Zila Parishad, Municipal Corporation or Urban local body and local NGO, if any, from whom any suggestion/representation has been received while processing the proposal. A copy of the clearance letter shall also be displayed on company's website.
  - xv. A copy of the environmental clearance letter shall be shall also be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industry Sector and Collector's Office/Tehsildar's Office for 30 days.
  - xvi. The clearance letter shall be uploaded on the company's website. The compliance status of the stipulated environmental clearance conditions shall also be uploaded by the project authorities on their website and updated at least once every six months so as to bring the same in public domain. The monitoring data of environmental quality parameter (air, water, noise and soil) and critical pollutant such as PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub> (ambient) and critical sectoral parameters shall also be displayed at the entrance of the project premises and mine office and in corporate office and on company's website.
  - xvii. The project proponent shall submit six monthly compliance reports on status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e-mail) to the respective Regional Office of the Ministry, respective Zonal Office s of CPCB and the SPCB.
  - xviii. The Regional Office of this Ministry located in the Region shall monitor compliance of the stipulated conditions. The Project authorities shall extend full cooperation to the office(s) of the Regional Office by furnishing the requisite data/ information/monitoring reports.
  - xix. The Environmental statement for each financial year ending 31 March in For –V is mandated to be submitted by the project proponent for the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be uploaded on the company's website along with the status of compliance of EC conditions and shall be sent to the respective Regional Offices of the MoEF by e-mail.
5. The proponent shall abide by all the commitments and recommendations made in the EIA/EMP report so also during their presentation to the EAC.
  6. The proponent is required to obtain all necessary clearances/approvals that may be required before the start of the project. The Ministry or any other competent authority may stipulate any further condition for environmental protection.
  7. The Proponent shall setup an Environment Audit cell with responsibility and accountability to ensure implementation of all the EC Conditions.
  8. The Ministry or any other Competent Authority may stipulate any further condition for environmental protection.
  9. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract the provisions of the Environment (Protection) Act, 1986.
  10. The above conditions will be enforced *inter-alia*, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and Rules. The proponent shall ensure to undertake and provide for the costs incurred for taking up remedial measures in case of soil contamination, contamination of groundwater and surface water, and occupational and other diseases due to the mining operations.

(Dr. Manoranjan Hota)  
Director

**Copy to:**

1. Secretary, Ministry of Coal, Shastri Bhawan, New Delhi.
2. Secretary, Department of Environment & Forests, Government of Jharkhand, Secretariat, Ranchi.

3. Chief Conservator of Forests, Regional office (EZ), Ministry of Environment & Forests, A/3 Chandrashekarapur, Bhubaneswar 751023.
4. Member-Secretary, Jharkhand State Pollution Control Board, TA Building, HEC Complex, PO Dhurwa, Ranchi.
5. Member-Secretary, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, New Delhi 110032.
6. Member-Secretary, Central Ground Water Authority, Ministry of Water Resources, Curzon Road Barracks, A-2, W-3 Kasturba Gandhi Marg, New Delhi.
7. District Collector, Dhanbad, Government of Jharkhand.
8. Shri Chanakya Choudhary, Chief Resident Executive, M/s Tata Steel Ltd., Tower- I, 10th Floor, Jeevan Bharati Building Connaught Place, New Delhi
9. IG (Wild Life), Ministry of Environment and Forests, New Delhi
10. Monitoring File
11. Guard File
12. Record File
13. Notice Board

(Dr. Manoranjan Hota)  
Director