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F. No. J-11011/28/2007-IA II (I)
Government of India
Ministry of Environment and Forests
(I.A. Division)

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Dated 31st March, 2008

To, ✓
M/s Steel Authority of India Ltd.
Bhilai Steel Plant
Bhilai - 490 001, Durg
Chhattisgarh

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Subject : Modernization-cum-expansion of Bhilai Steel Plant (4.00 MTPA to 7.00 MTPA) alongwith Captive Power Plant (72 MW) at Bhilai, Chhattisgarh by M/s Steel Authority of India Ltd. - Environmental clearance req.

Sir,

This has reference to your letter no. DGM(EnMD)/EIA&EMP/1624 dated 27th December, 2006 alongwith Application Form, Questionnaire, Executive Summary, Pre-feasibility Report and EIA/EMP Report subsequent clarifications furnished by you vide your letter dated 14th March, 2007, 20th March, 2007, 29th June, 2007, 8th December, 2007 and 15th March, 2007 for environmental clearance on the above mentioned project.

2.0 The Ministry of Environment and Forests has examined the application. It is noted that M/s Steel Authority of India Ltd. have proposed for the Modernization-cum-expansion of Bhilai Steel Plant (4.00 MTPA to 7.0 MTPA) alongwith Captive Power Plant (72 MW) at Bhilai, Chhattisgarh and will involve modernization, modification, upgradation, addition, deletion etc. in the existing plant. Total existing land is 6286.75 ha and no additional land will be required for the expansion of project. No national parks, sanctuaries, biosphere reserves, monuments, heritage sites are located within 7 km. of the site. Details of existing, proposed and total capacities of various plants after expansion will be as follows:

S. N.	Name of units / Products	Existing Capacity (4.0 MTPA)	Proposed Capacity (3.0 MTPA)	Total Capacity (7.0 MTPA)
1	Coke Oven Complex	3.303 MTPA	3.94 MTPA	3.94 MTPA
2	Sinter Plant Complex	8.374 MTPA	9.235 MTPA	9.235 MTPA
3	Blast Furnace Complex	4.71 MTPA	7.5 MTPA	7.5 MTPA
4	Steel Melting Shop-1	2.5 MTPA	-	-
5	Steel Melting Shop-2	1.5 MTPA	3.0 MTPA	3.0 MTPA
6	Steel Melting Shop-3	-	4.0 MTPA	4.0 MTPA
7	Blooming & Billet Mill	2.149 MTPA	-	-
8	Plate Mill	0.95 MTPA	1.42 MTPA	1.42 MTPA

9	Rail & Structural Mill	0.75 MTPA	1.70 MTPA	1.70 MTPA
10	Merchant Mill	0.5 MTPA	0.6 MTPA	0.6 MTPA
11	Bar & Rod Mill	-	0.9 MTPA	0.9 MTPA
12	Universal Beam Mill	-	-	1.0 MTPA
13	Wire Rods	0.42 MTPA	0.54 MTPA	0.68 MTPA
14	Lime & Dolo Plant	0.38 MTPA	1.58 MTPA	1.58 MTPA
15	Oxygen Plant	3 x 550 TPD	3x 550 TPD, 1x 650 TPD, 2x 1250 TPD	3x 550 TPD, 1x 650 TPD, 2x 1250 TPD
16	Power & Blowing Station	900 TPH steam, 36 MW	1390 TPH steam 72 MW	1390 TPH steam 72 MW

3.0 SPM, SO₂, NO_x levels in the ambient air will decrease due to phasing out of the existing polluting units, better pollution control due to use of environment-friendly technologies and installation of efficient air pollution control system. ESP, Bag filters, Gas cleaning plant (GCP), ventury scrubber, dust suppression system will be provided to control gaseous emissions and dust. Recovery type of the coke oven batteries with HPLA, smokeless charging cars etc. will be provided to control emissions. Total water requirement from Maroda-II reservoir and Tandula canal after expansion will be 15,981 m³/h and agreement is signed with the Irrigation Department for 13,576 m³/h and have applied for the 'Permission' for the drawl of additional water. Treated wastewater will be recycled and reused and 'zero' discharge will be adopted. Almost 98% solid waste will be utilized in the plant itself and 2% will be dumped within the premises.

4.0. Public Hearing / Public Consultation meeting was held on 28th September, 2007. Total cost of the project will be Rs. 12,954.30 Crores.

5.0. The Ministry of Environment and Forests hereby accords environmental clearance to the above project under the provisions of EIA Notification, 2006 as amended subsequently subject to strict compliance of the following specific and general conditions:

A. SPECIFIC CONDITIONS :

- i) Efforts shall be made to reduce RSPM levels in the ambient air and a time bound action plan should be submitted. On-line stack monitoring facilities for all the stacks shall be provided and sufficient air pollution control devices shall be provided to keep the emission levels below 100 mg/Nm³. Data on ambient air quality and stack emission should be regularly submitted to this Ministry including its Regional Office at Bhopal, CPCB and CECB once in six months.
- ii) As proposed, electrostatic precipitator (ESP) shall be provided to sinter plant, steel melting shop (SMS), blast furnace (BF) and Power plant to control gaseous emissions to 100 mg/Nm³. Two-stage Gas cleaning plant (GCP) and ventury scrubbers shall also be provided to BF-8, SMS-II & III, RMP-III and bag filter to RMP-II to control fugitive emissions. Dust suppression system shall be provided to control dust from coal and iron storage area. Dust extraction system shall be provided in coal crushing and screening, cooler discharge area, product separation area etc. to control fugitive emissions.
- iii) All the standards prescribed for the coke oven plants shall be followed as per the latest guidelines. Proper and full utilization of coke oven gases in power plant using heat recovery steam generators shall be ensured and no fuel gases shall be discharged into the air.

- iv) Gaseous emission levels including secondary fugitive emissions from blast furnace and sinter plant shall be controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines / Code of Practice issued by the CPCB shall be followed.
- v) Total water requirement from Maroda-II reservoir and Tandula canal after expansion shall not exceed 15,981 m³/h. Treated wastewater shall be recycled and reused for cooling in BF shell, BF gas, valve of hot air blast and the skids in reheating furnaces. The treated effluent shall also be used in GCP for gas cleaning at BF, steel making, slag granulation plant (SGP), boiler make up water etc. Effluent from coke oven shall be treated in BOD plant and reused for coke quenching. All the treated wastewater shall be recycled and reused in the process, dust suppression and green belt development. 'Zero' effluent discharge shall be strictly followed and no wastewater shall be discharged outside the premises. Treated effluent may be discharged only in emergency in water recovery system.
- vi) Prior 'Permission' for the drawl of additional water from the concerned department shall be obtained.
- vii) Continuous monitoring of Total Organic Compounds (TOC) shall be done at the outlet of effluent treatment plant (BOD plant).
- viii) As proposed, coal and coke fines shall be recycled and reused in the process. Iron ore, fluxes, mill scale etc. shall be recycled to sinter plant to produce sinter. All the blast furnace (BF) slag shall be granulated and provided to cement manufacturers for further utilization. All the BOF slag shall be reused in the blast furnace, sinter plant. SMS slag shall also be properly utilized. All the other solid waste including broken refractory mass shall be properly disposed off in environment-friendly manner or in a suitably designed landfill as per CPCB guidelines to prevent leaching to the sub-soil and underground aquifer within the premises and efforts shall be made to make further utilization. Waste oil shall be sold to authorized recyclers.
- ix) All the fly ash shall be utilized as per Fly Ash Notification, 1999 subsequently amendment in 2003.
- x) A time bound action plan shall be submitted to reduce solid waste, its proper utilization and disposal.
- xi) As proposed, green belt shall be developed in 33 % area within and around the plant premises as per the CPCB guidelines in consultation with DFO.
- xii) All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Steel plants shall be implemented.

B. GENERAL CONDITIONS :

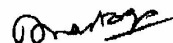
- i. The project authorities must strictly adhere to the stipulations made by the Chhattisgarh Environment Conservation Board (CECB) and the State Government.
- ii. No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment and Forests.

- iii. The gaseous emissions from various process units shall conform to the load/mass based standards notified by this Ministry on 19th May, 1993 and standards prescribed from time to time. The State Board may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location. At no time the emission level shall go beyond the prescribed standards. The interlocking facilities shall be provided so that process can be automatically stopped in case emission level exceeds the limit.
- iv. In-plant control measures for checking fugitive emissions from all the vulnerable sources like spillage/raw materials/coal handlings etc. shall be provided. Further, specific measures like provision of dust suppression system consisting of water sprinkling, suction hoods, fans and bag filters etc. shall be installed at material transfer points and other raw material handling areas. Centralized de-dusting system i.e. collection of fugitive emissions through suction hood and subsequent treatment through bag filter or any other device and finally emitted through a stack of appropriately designed height conforming to the standards. Fugitive emissions shall be regularly monitored and records maintained.
- v. At least, four ambient air quality-monitoring stations should be established in the downward direction as well as where maximum ground level concentration of SPM, SO₂ and NO_x are anticipated in consultation with the CECB. Data on ambient air quality and stack emission should be regularly submitted to this Ministry including its Regional Office at Bhopal and the CECB/CPCB once in six months.
- vi. Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.

silencers, enclosures etc. On all sources of noise generated, the noise levels shall conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (nighttime).

- viii. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
- ix. The company shall develop surface water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.
- x. The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA / EMP report. Further, the company must undertake socio-economic development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.
- xi. As proposed, Project authorities shall earmark Rs. 736.50 Crores & Rs. 110.50 Crores towards capital cost and recurring cost/annum for environmental pollution control measures to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. An implementation schedule for implementing all the conditions stipulated herein shall be submitted to the Ministry's Regional Office at Bhopal. The funds so provided should not be diverted for any other purpose.

- xii. The Regional Office of this Ministry at Bhopal/CPCB/CECB will monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.
- xiii. The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the CECB and may also be seen at Website of the Ministry of Environment and Forests at <http://envfor.nic.in>. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional office.
- xiv. Project authorities 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 and the date of commencing the land development work.
- 6.0. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- 7.0. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- 8.0. The above conditions shall be enforced, Inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Wastes (Management and Handling) Rules, 2003 and the Public (Insurance) Liability Act, 1991 along with their amendments and rules


(Dr. P. B. Rastogi)
Director

Copy to :

1. Secretary, Department of Environment, Govt. of Chhattisgarh, Chhattisgarh.
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
3. The Chairman, Chhattisgarh Environment Conservation Board, Nanak Niwas, Civil Lines, Raipur, Chhattisgarh.
4. The Chief Conservator of Forests (Eastern), Regional Office (WZ), E-3/240, Arera Colony, Bhopal - 462 016, M.P.
5. Adviser (A-II), Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi.
6. Monitoring Cell, Ministry of Environment & Forests, New Delhi.
7. Guard file.
8. Record file.


(Dr. P. B. Rastogi)
Director