

F. No. J-11011/829/2008-IA-II (I)
Government of India
Ministry of Environment and Forests
(I.A. Division)

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Dated: 20th July, 2012

To,
M/s Bhushan Steel Limited
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Sub: Expansion of Integrated Steel Plant (3.1 MTPA to 5.6 MTPA) at Meramandali, District Dhenkanal in Orissa by M/s Bhushan Steel Limited - regarding Environmental Clearance

Sir,

This has reference to your letter no. nil dated 7.02.2011 along with copies of EIA/EMP and public hearing reports and subsequent communications dated 11.07.2011, 16.08.2011, 30.01.2012, 22.02.2012 and 9.03.2012 seeking environmental clearance under the provisions of EIA Notification, 2006 and a communication no. 3024/IND-I-Con-5440 dated 22.02.2012 from the State Pollution Control Board, Odisha.

2. The Ministry of Environment and Forests has examined your application. It is noted that M/s Bhushan Steel Limited have proposed for the expansion of Integrated Steel Plant from 3.1 MTPA to 5.6 MTPA at Meramandali, District Dhenkanal, Orissa. Environmental clearance for the existing Steel Plant (3.1 MTPA) has been accorded by the Ministry vide letter no. J-11011/405/2007-IA II (I) dated 22nd September, 2008. The expansion will be carried out within the existing plant premises of 1,664.56 acres and an additional land of 45 acres was acquired for solid waste disposal. Imported coking coal, Iron ore lumps, Iron ore fines, Limestone, Dolomite (BF Grade), Dolomite (SMS grade), Quartzite, Non-coking coal for CDI will be raw materials required for the expansion project. Coal will be obtained from M/s. MCL, USA and Australia. No National Park/Wildlife Sanctuary / Reserve Forest is located within 10 km. radius of the project. Total cost of the project is Rs. 7,055.71 Crores. Rs. 402.1 Crores and Rs. 40.0 Crores will be earmarked towards total capital cost and recurring cost/annum for environmental pollution control measures.

3. Details of the existing and proposed facilities along with production capacity are given below:

S. No.	Facility	Capacity for which EC granted (3.1 MTPA)	Proposed expansion (2.5 MTPA)	Total capacity (5.6 MTPA)
1	Coal Washery	3.2 MTPA	--	3.2 MTPA
2	Coke oven	0.85 MTPA	1.25 MTPA	2.10 MTPA
3	Sinter Plant	1.85 MTPA	4.5 MTPA	6.35 MTPA
4	Hot metal	1.294 MTPA	2.625 MTPA	3.919 MTPA
5	DRI	2.38 MTPA	--	2.38 MTPA
6	Liquid Steel	3.26 MTPA	2.62 MTPA	5.88 MTPA
7	Slab	2.58 MTPA	2.54 MTPA	5.12 MTPA
8	Billets	0.585 MTPA	--	0.585 MTPA
9	HR coil	2.514 MTPA	2.478 MTPA	4.992 MTPA

10	Bar mill	0.2 MTPA	--	0.2 MTPA
11	Oxygen Plant	950 TPD	2,400 TPD	3,350 TPD
12	Lime & Dolo Plant	0.42 MTPA	0.32 MTPA	0.74 MTPA
13	Power Plant (WHRB & FBC)	155 MW	--	155 MW

4. It is noted that to control the fugitive emissions, dust extraction system will be provided to material handling area, screen house, waste gas cleaning system, stock house, cast house, basic oxygen furnace (BOF) etc. and at the coal/raw material stock piles. Bag filters and dust suppression system will be provided at raw material handling yard to control the dust emission. Electrostatic precipitator (ESP) and stack of adequate height will be provided to the Sinter Plant and Steel Melting shop. Gas cleaning plant (GCP) will be provided to blast furnace and basic oxygen furnace. Bag filters to BF stock house and bag filter with dust suppression will be provided to raw material handling yard. Bag filters along with stack of adequate height will be provided to Lime and Dolo Plant. Stack of adequate height will be provided to BF stoves and Reheating furnace. Hot blast stoves will be provided with WHRB. Ground based pushing emissions control system will be provided to coke oven battery. Coke oven will be provided with bag filter, stack of adequate height, gas cleaning in by-product recovery unit and H₂S recovery system.

5. The existing water requirement is 5,400 m³/hr and additional water requirement for the expansion project will be 3,400 m³/hr, which will be met from Brahmani River. Permission to draw 9,180m³/hr of water from the River Brahmani from the Water Resources Department (WRD), Govt. of Orissa has been obtained. Existing power requirement is 410 MVA and additional power requirement will be 177 MVA, which will be purchased from GRIDCO. Coke oven gas will be used in coke oven plant. BF gas will also be considered for use in existing steel plant. Heavy fuel oil (HFO) will be used as fuel for reheating furnace. Phenolic effluent (phenol, Ammonia) from the coke oven plant will be treated in Effluent Treatment Plant. Suspended solids from Raw Water Treatment Plant and BF gas cleaning plant will be treated in clarifier, thickener and Sludge pond/Press filter. DM water plant will be treated in neutralizing pit. Suspended solids, Oil & Grease from Slab caster and hot strip mills will be removed by Settling tanks fitted with Oil & Grease trap. Cooling tower blow down will be reused for dust suppression and slag granulation, pig-casting machine etc. Domestic effluent will be treated in septic tank followed by soak pit. Catch pits will be used for removal of suspended solids from raw material handling yard. Under flow of raw water clarifier and filter backwash will be circulated through storage cum settling tank. Decanted water from settling tank will be used for dust suppression. GCP water will be reused after treating in clarifloculator, thickener. Sewage will be treated in STP.

6. BF slag will be granulated and used for cement making. SMS slag will be partly used in Sinter plant and the balance will be used in the landfill, boulder and in the plant roads, railway ballast. Dust from GCP and flue dust from BF, dust, scales and scrap from SMS and scrap from HSM will be re-used in Sinter making. The fly ash will be utilized for brick manufacturing and disposed off in the mined out area.

7. The Integrated Steel Plants are listed at S.No. 3(a) in Category 'A' under the schedule of EIA Notification, 2006 and appraised by the Expert Appraisal Committee in the Ministry.

8. The proposal was considered by the Expert Appraisal Committee-1 (Industry) in its 24th meeting held during 19th & 20th May, 2011. The Committee sought additional information for reconsideration of project. On receipt of additional information, the Committee reconsidered the project in its meetings held during 26th - 27th August, 2011 and 29th - 30th March, 2012. The Committee recommended the proposal for environmental clearance subject to stipulation of specific conditions along with other environmental conditions. Public hearing for the project was held on 25.10.2010.

9. In view of the Expert Appraisal Committee-1 (Industry) recommended above and as per the procedure prescribed vide Circular No. J-11013/41/2006-IA.II (I) dated 16.11.2006, the proponent was asked to place the matter before the Board of Directors of Company and submit a written commitment in the form of formal resolution that the violation of the Environment (Protection) Act, 1986 will not be repeated.

10. The Ministry therefore received a copy of the resolution passed by the Board of Directors of M/s Bhushan Steel Limited on 08.06.2012 vide letter No Nil dated 11th June, 2012 placed at **Annexure-I** of this environmental clearance .

11. Based on the information submitted by you, presentation made by you and consultant, M/s Mecon Limited, Ranchi, the Ministry of Environment and Forests hereby accords environmental clearance to the above project under the provisions of EIA Notification dated 14th September 2006 subject to strict compliance of the following Specific and General conditions:

A. SPECIFIC CONDITIONS:

- i. Compliance to all the specific and general conditions stipulated for the existing plant by the Central/State Government shall be ensured and regular reports submitted to the Ministry's Regional Office at Bhubaneswar/SPCB.
- ii. The target dates/schedule given for compliance to the conditions of environmental clearance for 3.1 MTPA Steel Plant to the State Pollution Control Board and to the Ministry shall be adhered to and reports regularly submitted to MoEF Regional Office at Bhubaneswar.
- iii. The 'Consent to Operate' shall be granted by SPCB only after satisfactory compliance of the conditions stipulated in the environmental clearance and Consent granted by the SPCB for the 3.1 MTPA Steel Plant. A joint visit shall be conducted by MoEF Regional Office at Bhubaneswar and SPCB in this regard. Periodic review of the project regarding compliance to the conditions stipulated shall be undertaken based on the compliance report submitted by the proponent within four months. The compliance status shall be monitored by the Regional Office of the Ministry at Bhubaneswar.
- iv. Measures shall be undertaken to mitigate particulate matter levels in the ambient air and a time bound action plan shall be submitted. On-line ambient air quality monitoring and continuous stack monitoring facilities for all the stacks shall be provided and sufficient air pollution control devices viz. Electrostatic precipitator (ESP), gas cleaning plant, bag filters etc. shall be provided to keep the emission levels below 50 mg/Nm³ by installing energy efficient technology.
- v. The bag filter shall be installed at the coal crusher and the screening area. Pneumatic dust handling system shall be provided at ESP hoppers in the sinter plant. The existing bag filters shall be upgraded. Fixed type water sprinklers shall be installed in the internal roads and at the material handling area to control the fugitive emission. Dry fog system shall be installed in the coal handling area. Dry sweeping (vacuum process) shall be carried out prior to water sprinkling on roads.
- vi. The National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 shall be followed.
- vii. Gaseous emission levels including secondary fugitive emissions from all the sources 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.
- viii. Proper PPE shall be provided to all the workers including contract workers.

- ix. The natural drain / nallah present on the northern side of the project site shall not be disturbed. The main gate of the plant beyond the nallah shall be shifted and the area should be developed into garden for public use.
- x. Water requirement for expansion from River Brahmani shall not exceed 3,400m³/hr. All the effluent should be treated and used for ash handling, dust suppression and green belt development. No effluent shall be discharged and 'zero' discharge shall be adopted. Sanitary sewage should be treated in septic tank followed by soak pit for treatment of effluent/run-off from the coal washery area, settling pond shall be de-silted regularly and additional settling tank shall be constructed.
- xi. Efforts shall be made to make use of rain water harvested. If needed, capacity of the reservoir should be enhanced to meet the maximum water requirement. Only balance water requirement shall be met from other sources.
- xii. Regular monitoring of influent and effluent surface, sub-surface and ground water (including chromite) should be ensured and treated wastewater should meet the norms prescribed by the State Pollution Control Board or described under the Environment (Protection) Act whichever are more stringent. Leachate study for the effluent generated and analysis shall also be regularly carried out and report submitted to the Ministry's Regional Office at Bhubaneswar, SPCB and CPCB.
- xiii. All the blast furnace (BF) slag shall be provided to the cement manufacturers. Scrap shall be used in steel melting shop (SMS) and SMS slag and kiln accretions shall be properly utilized. All the other solid waste including broken refractory mass shall be properly disposed off in environment-friendly manner. Fly ash shall be utilized for the cement manufacturing and filling of mined out area after carrying geo hydrological study to prevent ground water pollution.
- xiv. Proper handling, storage, utilization and disposal of all the solid waste shall be ensured and regular report regarding toxic metal content in the waste material and its composition, end use of solid/hazardous waste should be submitted to the Ministry's Regional Office at Bhubaneswar, SPCB and CPCB.
- xv. Vehicular pollution due to transportation of raw material and finished products shall be controlled. Proper arrangements shall also be made to control dust emissions during loading and unloading of the raw material and finished product.
- xvi. The raw materials should regularly (six monthly) be monitored for trace metals and management plan shall be submitted to SPCB and MOEF Regional Office at Bhubaneswar.
- xvii. All internal roads shall be black topped. The roads shall be regularly cleaned with mechanical sweepers. A 3-tier avenue plantation using native species shall be developed along the roads
- xviii. An action plan for transfer from wet to dry quenching shall be submitted to the SPCB and MOEF Regional Office at Bhubaneswar within three months. The target date shall not be more than six years from the date of environmental clearance accorded for 3.1 MTPA Steel Plant i.e. 22.9.2008. Adequate space shall be provided for the retro fitting the dray coach quenching facility.
- xix. Risk and Disaster Management Plan along with the mitigation measures shall be prepared and a copy submitted to the Ministry's Regional Office at Bhubaneswar, SPCB and CPCB within three months of issue of environment clearance letter.

- xx. As proposed, green belt shall be developed in 33 % of plant area as per the CPCB guidelines in consultation with the DFO.
- xxi. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Steel Plants should be implemented.
- xxii. All the commitments made to the public during the Public Hearing / Public Consultation meeting held on 28th October, 2010 should be satisfactorily implemented and a separate budget for implementing the same should be allocated and information submitted to the Ministry's Regional Office at Bhubaneswar.
- xxiii. At least 5 % of the total cost of the project should be earmarked towards the Enterprise Social Commitment (ESC) based on Public Hearing issues and item-wise details along with time bound action plan should be prepared and submitted to the Ministry's Regional Office at Bhubaneswar. Implementation of such program should be ensured accordingly in a time bound manner.
- xxiv. The company shall provide housing for construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- xxv. The company shall set up State-of-the-Art-Environment-Control/Monitoring and Research Lab with R& D facilities for waste utilization studies. The laboratory staff shall be provided with adequate training for use and maintenance of the equipments. An action plan in this regard shall be submitted to SPCB and MOEF Regional Office at Bhubaneswar within three months.

B. GENERAL CONDITIONS:


- i. The project authorities must strictly adhere to the stipulations made by the Orissa State Pollution Control Board and the State Government.
- ii. No further expansion or modifications in the plant shall 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.
- iv. At least four ambient air quality monitoring stations shall be established in the downward direction as well as where maximum ground level concentration of PM₁₀, SO₂ and NO_x are anticipated in consultation with the SPCB. Data on ambient air quality and stack emission shall be regularly submitted to this Ministry including its Regional Office at Bhubaneswar and the SPCB/CPCB once in six months.
- v. 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.
- vi. The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (nighttime).

- vii. Occupational health surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act. The workers including the contract workers shall be provided with proper personal protection equipments.
- viii. 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.
- ix. 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.
- x. The requisite funds shall be earmarked towards capital cost and recurring cost/annum for environment 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 Regional Office of the Ministry at Bhubaneswar. The funds so provided shall not be diverted for any other purpose.
- xi. A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad/Municipal Corporation, Urban Local Body and the local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent.
- xii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MOEF at Bhubaneswar. The respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely, PM10, SO₂, NO_x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.
- xiii. The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB. The Regional Office of this Ministry at Bhubaneswar/ CPCB / SPCB shall monitor the stipulated conditions.
- xiv. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company alongwith the status of compliance of environmental conditions and shall also be sent to the respective Regional Office of the MOEF at Bhubaneswar by e-mail.
- xv. 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 SPCB 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 at Bhubaneswar.
- xvi. 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.

12. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

13. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

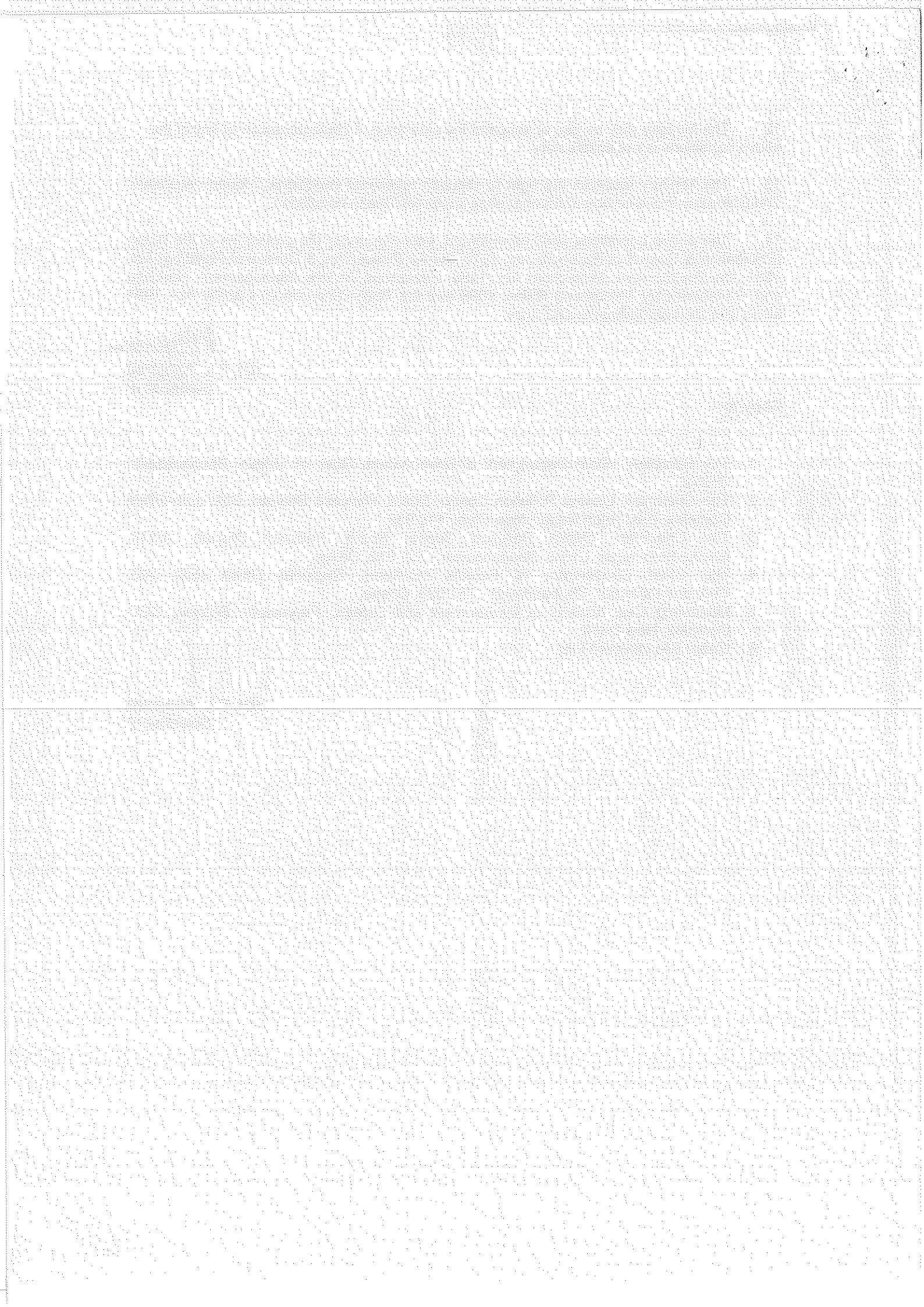
14. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008 and the Public (Insurance) Liability Act, 1991 along with their amendments and rules


(Dr. P.L. Ahujara)
Scientist -F

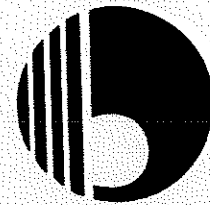
Copy to:-

1. The Secretary, State Department of Environment, Govt. of Orissa, Bhubaneswar, Orissa.
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi, 110 032.
3. The Chairman, Orissa Pollution Control Board, Parivesh Bhavan, A/118, Neelkanthhanagar, Unit-8, Bhubaneswar - 751 012, Orissa.
4. The Chief Conservator of Forests (Eastern), Regional Office (EZ), A/3, Chandrasekharpur, Bhubaneswar - 751 023, Orissa.
5. Monitoring Cell, Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi.
6. Guard File / Record File.


(Dr. P.L. Ahujara)
Scientist -F



BHUSHAN STEEL LIMITED



Annexure - I

BHUSHAN

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EXTRACTS OF THE RESOLUTION PASSED BY CIRCULATION BY THE DIRECTORS OF BHUSHAN STEEL LIMITED AS ON JUNE 8, 2012.

COMPLIANCE OF THE ENVIRONMENT (PROTECTION) ACT, 1986 AND ENVIRONMENTAL CLEARANCE

“RESOLVED THAT the Directors noted the recommendation of Expert Appraisal Committee of Ministry of Environment and Forests for environmental clearance and their observation that the Company has started construction for expansion prior to obtaining environment clearance regarding expansion of Integrated Steel Plant at Meramandali, District Dhenkanal in Orissa and the Board of Directors of the Company will ensure that violations of Environment (Protection) Act, 1986 be not repeated in future.”

Certified True Copy
for Bhushan Steel Limited

Company Secretary

