



HALF YEARLY COMPLIANCE REPORT

October – 2016 to March – 2017

Environment clearance of 1.5 MTPA Integrated Steel Plant
Letter no.: 11011/8/2005-IA-II (I) dated 29.06.2005

SPECIFIC CONDITIONS:

SL	CONDITIONS	COMPLIANCE STATUS
i	<p>The gaseous emissions from various process units shall conform to the load/mass based standards notified by the Ministry on 19 May, 1993 and standards prescribed from time to time. The state board may specify more stringent standards for the parameters keeping in the view the nature of the industry and its size and location. At no time the emission level should go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the unit, the respective unit should not be restarted until the control measures are rectified to achieve the desired efficiency.</p>	<ul style="list-style-type: none">• Following measures are adopted to control particulate matter in ambient air at source itself:• 28 numbers of ESPs have been installed at various locations to control particular emission at source itself.• 52 numbers of bag filters have been installed at various locations to control particular emission at source itself.• 03 numbers of scrubbers have been installed at Blast Furnace I, II and BOF.• 108 numbers of rotary gun sprinklers installed covering all raw material yards.• Dry fog dust suppression system having 252 nos. of nozzles have been installed in 46 junction houses.• Details are enclosed as annexure-I.• Due to these effective and efficient control measures, emission levels are being maintained well below the norm of 50 mg/Nm³• The details of ESPs, bag filters and scrubbers are enclosed as annexure-II• Mechanized road sweepers have been deployed to clean all concrete roads, shop floors of individual units.• Water tankers have been deployed for water sprinkling whenever it is required.• Due to all these latest and efficient



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		<p>air pollution control measures, ambient air quality in the complex is as per the AAQ standard.</p> <ul style="list-style-type: none"> • 23 numbers of online gas analyzers for gaseous parameters have been provided on stacks. • 42 numbers of online dust monitors have also been installed and commissioned at the stacks. • Details of online gas analyzers, online dust monitors with photographs are enclosed as annexure-III. • To monitor the ambient air quality, we have installed 7 numbers of Continuous Ambient Air Quality Monitoring Stations (CAAQMS) in the entire complex of Bhushan Steel Limited and Bhushan Energy Limited, in consultation with SPCB, Odisha. • Details of CAAQMS with photograph are enclosed as annexure-IV.
ii	<p>There shall be no discharge of process effluent. As reflected in the EIA/EMP report, the company shall undertake water conservation measures by recycling the water from the gas cleaning plant and cooling tower blow down. The plant design shall be base on 100% recirculation system to achieve zero discharge. The domestic waste water after treatment in STP shall be used for green belt development.</p>	<ul style="list-style-type: none"> • Permission has been obtained for drawl of 9174.65 m³ / hr of water from Department of Water Resources, Govt. of Odisha. • All the effluents are being treated in settling tanks (19 nos.) and common Effluent Treatment Plants (3 nos.). • Treated water is used for dust suppression, ash handling, various process make up like coal washery, DRI, cooling towers and green area irrigation. • Besides the above facilities, various waste water treatment systems like BOD plants at Coke Oven 1 & 2, ETP at CRM, Thickeners at Coal Washery, Blast Furnace 1 & 2, BOF, SMS and HSM have been provided to recycle and reuse of treated waste water.



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		<ul style="list-style-type: none"> • Zero discharge status is maintained except during torrential rain in monsoon season. • The sanitary sewage treated in 4 STPs, is being used for greenbelt development. • The surface run-off from the coal washery area is routed through three numbers of settling tanks and settling tanks are properly maintained.
iii	<p>In plant control measures for checking fugitive emissions from spillage/raw materials handling shall be provided. Further specific measures like provisions of dust extraction & dust suppression system for product & raw materials handling, conveyor transfer points, water sprinkling system at waste disposal area to control the fugitive emissions shall be provided. Data on fugitive emission shall be regularly monitored & records maintained.</p>	<ul style="list-style-type: none"> • Two de-dusting systems have been provided at the coal circuit. • Bag filter at Coal Screening Building - I with 70,000 m³/hr capacity. • Bag filter at Coal Screening Building - II with 93,400 m³/hr capacity. • Flow diagram is enclosed as annexure-V. • Five numbers of bag filters have also been provided in the iron ore circuit at crushing and screening points of raw material handling areas at the following locations: <ul style="list-style-type: none"> • Ore Primary Screening with 48,000 m³ / hr capacity • Ore Secondary Crushing with 5,000 m³ / hr capacity • Ore Tertiary Crushing with 7,500 m³ / hr capacity • Ore Secondary and Tertiary Screening with 40,000 m³ / hr capacity. • Ore Screening Building with 48,000 m³ / hr capacity • Pneumatic dust handling system has been provided at ESP hoppers in the Sinter Plant 1. • Chain conveyor dust handling system has been provided at ESP hoppers of sinter plants 2 and 3. • 252 numbers of nozzles in dry fog dust suppression system have been

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		<p>provided at 46 numbers of junction houses of raw material handling area.</p> <ul style="list-style-type: none"> • Further, 108 nos. of rotary gun sprinklers have been installed throughout the raw material handling yards. • Mechanized road sweepers have been deployed for dry sweeping on roads and shop floors. • Regular monitoring of fugitive emission is carried out and report being submitted.
iv	<p>The company shall use gas from the DRI for power generation & blast furnace gas for BF Stoves, sinter plant & furnace heating. The exhaust gas from the kiln shall be cleaned by dry gas cleaning system. The waste gas shall be passed through dust settling chamber to settle the coarse dust particulate & post combustion chamber to burn the CO in the flue gas. The boiler shall utilize the waste heat for steam generation. The particulate emissions shall be controlled by installation of ESP & the particulate emissions shall not exceed 100 mg/Nm³.</p>	<ul style="list-style-type: none"> • The Plant has installed 10 nos. of DRI kiln of 500 TPD each with WHRB system to utilize the waste heat for steam generation. • Each kiln has a ESP each at the hot end and 5 nos. of De-dusting system in the cold end of the DRI Kiln. • The particulate emission from the Stack is well within the limit of 100 mg/Nm³. The monitoring data are enclosed.
v	<p>The company shall install centralized de-dusting system to control the primary emissions from the induction furnace top as canopy hood at the top of furnace to capture secondary emissions.</p>	<ul style="list-style-type: none"> • The centralized de-dusting system has been established to control primary emissions from the induction furnace top as canopy hood to capture secondary emissions.
vi	<p>The company shall take measures for installation of continuous ambient air quality monitoring stations and data sent electronically to SPCB/CPCB.</p>	<ul style="list-style-type: none"> • To monitor the ambient air quality, we have installed 7 numbers of Continuous Ambient Air Quality Monitoring Stations (CAAQMS) in the entire complex of Bhushan Steel Limited and Bhushan Energy Limited, in consultation with SPCB,

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		Odisha.
vii	SMS slag from induction furnace, EAF & LF shall be used for road making and railway blast. Coal washery middling and char from DRI shall be used for power generation. BF Slag should be granulated & sold to cement manufacturers. Scrap, coal & iron ore fines shall be reused. Fly ash shall be used for bricks manufacturing.	<ul style="list-style-type: none"> All the SMS, EAF, IF and LRF slag are being crushed in slag crushing plant and further being used for road making and flooring in place of stone chips .
viii	Resettlement & Rehabilitation plan for displacement of families shall be as per the land acquisition Act & state government guidelines.	<ul style="list-style-type: none"> The Resettlement & Rehabilitation plan for displacement of families has already made as per the Land Acquisition Act & State Government guidelines.
ix	A green belt of adequate width density shall be developed in 195 acres of plant area. Selection of plant species as per the CPCB guidelines.	<ul style="list-style-type: none"> About 3.4 lakhs saplings have been planted in and around steel plant complex (including Bhushan Steel Limited and Bhushan Energy Limited) covering about 24 % of the total land area. We plan to cover 33% plant area under green cover by 2018-19. Plantation photographs are attached as annexure-XVI. Proper maintenance of green coverage is being ensured throughout the year
x	The company shall undertake community welfare measures for the local villagers & earmark separate funds for construction of schools, hospitals, community hall for peripheral development of all the villagers located around the plant site.	<ul style="list-style-type: none"> Various socio - economic development programs covering education, safe drinking water, sanitation, sports and health care etc. are undertaken in nearby villages as per the suggestions made in public hearing. Detailed compliance report is enclosed as annexure-XVII.
xi	The company shall obtain forest clearance for diversion of 151.92 acres of village forest land	<ul style="list-style-type: none"> Necessary forest clearances have already been obtained.

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	under forest (conservation) act, 1980 before undertaking construction activity.	
xii	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the factories act.	<ul style="list-style-type: none"> Occupational health surveillance of the workers is being periodically done. Necessary PPEs are provided to all the employees including the contractor workers.
xiii	Recommendations made in the CREP shall be implemented	<ul style="list-style-type: none"> All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Steel Plants have been implemented and the compliance report submitted along with the half yearly report vide letter no. BSL/MoEF/BS-01/2014-04 dated 28.11.2014.
xiv	Company shall keep proper housekeeping within the plant premises.	<ul style="list-style-type: none"> Various initiatives are being taken for proper housekeeping within the Plant premises. Mechanized Road Sweepers have been deployed for housekeeping in shop floors of individual units.
xv	The company shall undertake rain water harvesting measures to harvest the rain water for utilization in the lean season as well as to recharge the ground water table.	<ul style="list-style-type: none"> To estimate the rain water harvesting potential, a detail study has been completed covering entire plant area and township. The findings of the study are being evaluated and same will be implemented in phase manner.

GENERAL CONDITION:

SL	CONDITIONS	COMPLIANCE STATUS
i	The project authorities must strictly adhere to the stipulations made by the Orissa State Pollution Control Board and the State Government.	<ul style="list-style-type: none"> We are strictly adhering to the stipulations made by SPCB and the State Government.
ii	No further expansion or modifications in the	<ul style="list-style-type: none"> No expansion or modification shall

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	plant shall be carried out without prior approval of the Ministry of Environment and Forests.	be carried out without prior approval of Ministry of Environment, Forests and Climate Change.
iii	At least four ambient air quality monitoring stations shall be established in the downward direction as well as where maximum ground level concentration of PM ₁₀ , SO ₂ 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.	<ul style="list-style-type: none"> • Seven CAAQM stations have been fixed in the consultation with the SPCB in BSL and BEL integrated complex. • Half yearly report is being submitted to Regional Office of MoEF&CC, SPCB and CPCB at regular intervals.
iv	Industrial waste water 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 form time to time. The treated waste water shall be utilized for plantation purpose.	<ul style="list-style-type: none"> • The industrial waste water as well as domestic waste water is being treated and utilized for various purposes like slag quenching, coke quenching, dust suppression and green belt development inside the plant premises. • The monitoring reports of Industrial waste water are being submitted to SPCB / CPCB / MOEF&CC at regular intervals. • The results are well within the standards.
v	The overall noise levels in and around the plant area shall be kept well within the standards 85 dB(A) 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 dB (A) (daytime) and 70 dB (A) (nighttime).	<ul style="list-style-type: none"> • Work zone noise monitoring results are within the standards and reports are being submitted to SPCB / CPCB / MOEF&CC at regular interval. • Latest report is enclosed as annexure-XX. • The ambient noise levels recorded in the premises is enclosed as annexure-XX.
vi	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	<ul style="list-style-type: none"> • Compliance to all the environmental protection measures as recommended in EIA / EMP report is ensured. • Various socio-economic development programs covering

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	community development programmes, educational programmes, drinking water supply and health care etc.	education, safe drinking water, sports and health care etc are undertaken in nearby villages. <ul style="list-style-type: none"> Rs. 10 crore has been spent on CSR activities till now.
vii	The project authority will provide separate fund both recurring and non-recurring to implement the conditions stipulated by the MoEF as well as the State Govt. along with the implementation schedule for all the conditions stipulated therein. The funds so provided should not be diverted for any other purposes	<ul style="list-style-type: none"> Adequate funds are earmarked towards pollution control measures as annual recurring cost. The funds earmarked for environment pollution control measures are not being diverted for any other activity.
viii	The Regional Office of the Ministry at Bhubaneswar / CPCB / SPCB will monitor the stipulated conditions. A six monthly compliance report and monitoring data along with statistical interpretation should be submitted to them regularly.	<ul style="list-style-type: none"> Six monthly compliance report and monitoring data are being submitted regularly.
ix	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.	<ul style="list-style-type: none"> Published in Sambad (English) dated 06.07.2005 and in Samaya (Oriya) dated 07.07.2005.



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x	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.	Complied
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