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स्टील अथॉरिटी ऑफ इण्डिया लिमिटेड
STEEL AUTHORITY OF INDIA LIMITED
भिलाई इस्पात संयंत्र
BHILAI STEEL PLANT

DGM I/c(EnMD)/B-8/2018/ 344

Date: 04/07/18

To,

The Additional Principal Chief Conservator of Forests
Ministry of Environment & Forests and Climate Change,
Regional Office (West-Central Zone)
Ground Floor, East Wing
New Secretariat, Civil Line
Nagpur – 440001

पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
Ministry of Environment, Forest & Climate Change
क्षेत्रीय कार्यालय (पश्चिम मध्य क्षेत्र)
Regional Office (Western Central Zone)
मूल-तल, पूर्व खंड / Ground Floor, East Wing
नया सचिवालय भवन / New Secretariat Building
सिविल लाईन्स / Civil Lines
नगपुर / Nagpur-440 001

Sub: Environmental Clearance of 7.0 MTPA Expansion at BSP – Submission of 6 monthly compliance reports

Ref:

1. Environmental Clearance from MoEFCC's F.no. J-11011/28/2007- IA II (I) dated 31.03.2008
2. Extension to Environmental Clearance from MOEFCC - F.No. J-11011/28/2007-IA II(I) dated 05/07/2013.
3. Amendment in EC vide letter no. J-11011/28/2007- IA II (I) dated 15.01.2018
4. Inspection report on status of Compliance by RO, MoEFCC, Nagpur vide letter no. 5-249/2009(env)/3463 dtd 02/04/18.
5. TOR for the revised Configuration of BSP's MODEX – MOEFCC letter no. - 11011/28/2007- IA II (I) dated 29/11/2017.

Respected Sir,

The following is being brought to the kind attention regarding the Environmental Clearance of Bhilai Steel Plant's 7.0 MTPA Modernization & Expansion.

- Bhilai Steel Plant has obtained Environmental clearance & subsequent extension for the subject project vide MoEFCC letters under reference 1 & 2
- Amendment to the EC was issued by MoEFCC vide letter under reference-3
- RO, MOEFCC, Nagpur has issued the Inspection report on status of Compliance vide letter under reference-4

It may kindly be noted that, BSP has successfully completed its MODEX program by 31/03/2018. However for minor modifications in the envisaged configuration, BSP has applied for Fresh Environmental Clearance. The TOR for the same was issued by MoEFCC vide letter under reference-5.

In view of the above the following is submitted for kind reference.

- Filled-in Monitoring report along with annexures

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Bhilai 490 001, Chhattisgarh, Fax: 0788-2222890, 0788-2223491, Website www.sail.co.in

हर किसी की जिंदगी से जुड़ा हुआ है सेल

There's little bit of SAIL in everybody's life

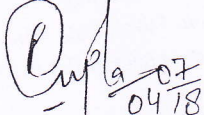
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BHILAI STEEL PLANT

- Six monthly compliance report (January-2018 to June-2018) for BSP's 7.0 MT Expansion/Modernization project. (Annexure-A)
- Observations & Clarifications of BSP on the Inspection report of RO issued vide letter under reference-4 (Annexure-B)

Thanking you,


07/04/18
(R G GUPTA)

MONITORING REPORT DATA SHEET

1	Project Type: River-valley/Mining/ Industry/ Thermal/Nuclear/Others (specify)	Industry – Integrated Iron & Steel Plant
2	Name of the project	Expansion/Modernization of Bhilai Steel Plant, Steel Authority of India Limited from 4.0 MTPA to 7.0 MTPA
3	Clearance (s) OM No. and Date	Original Clearance : F No. J-11011/28/2007-IAII(I) dtd 31 st March 2008 Extension of Clearance F No. J-11011/28/2007-IAII(I) dtd 5 th July 2013 EC amendment : <i>letter no. J-11011/28/2007- IA II (I)</i> dated 15.01.2018
4	Location	
	a) District (s)	Durg
	b) State (s)	Chhattisgarh
	c) Location Latitude/longitude	Latitude.: 21 ⁰ 11 ¹ to 21 ⁰ 13 ¹ Longitude – 81 ⁰ 22 ¹ to 81 ⁰ 24 ¹
5	Address for correspondence	
	a) Address of the concerned Project Chief Engineer (with Pin code & Telephone/ Telex/ Fax Number	Shri A K Mathur ED (Project) Bhilai Steel Plant, Bhilai – 490001 Phone – 0788 – 2852100
	b) Address of the concerned Project Chief Engineer (with Pin code & Telephone/ Telex/ Fax Number	Shri R G GUPTA Dy. General Manager I/c (Environment Management Department) Room No. 540, Ispat Bhawan, Bhilai Steel Plant, Bhilai – 490001 Phone – 0788 – 2854728 (M-9407981464)
6	Salient Features	
	a) Of the project	The summery of expansion/modernization features are given at annexure-1. The details are given at Chapter-2 of the enclosed EIA & EMP Report already submitted.
	b) of the Environment Management Plans	The summery of proposed Environment Management Programs/Plans are given at Annexure-2 The details are given at Chapter-6 & 9 of the EIA & EMP Report already submitted

7	Break up of the Project Area	
	a) Submergence area : Forest & Non-forest	Nil
	b) Others	The proposed expansion of BSP will take place within the 6286.75 Hectares under its possession. No additional land will be required for the expansion.
8	Break up of the Project affected population with enumeration of those losing Houses/ Dwelling units only. Agricultural land only, both dwelling units & agricultural land & landless labourers/ Artisans	
	a) SC, ST/Adivasi	NA
	b) Others (Please indicate whether these figures are based on any specific and systematic survey carried out or only rovisional figures, if a survey is carried out give details & year of survey)	NA
9	Financial details	
	a) Project cost as originally planned and subsequent revised estimates and the year of price reference	Rs. 11,262 Crores – Original April 2007 Revised Rs. 17265 Crores - June 2009
	b) Allocation mode for environmental management plans with item wise and year wise break-up	The total allocation made for environment conservation, pollution control Capital expenditure: 736.5 Cr. Annual recurring expenditure: 110.5 Cr The detailed break-up is given in Chapter-12 of EIA & EMP Report already submitted
	c) Benefit cost ratio/Internal rate of Return and the year of assessment	The IRR - 17.9% June 2009
	d) Whether(c) includes the cost of Environment Management as shown in the above.	Yes
	e) Actual expenditure incurred on the project so far	18303.09 Crores (Till DEC-2017)
	f) Actual expenditure incurred on the Environment Management	-
10	Forest land requirement	
	a) The status of approval for diversion of forest land for non-forestry use	The expansion project is taking place within the existing project area. No additional land is acquired.
	b) The status of clearing felling	NA
	c) The status of compensatory afforestation, if any Comments on the viability & sustainability of compensatory afforestation program in the light of actual field experience so far	NA
11	The status of clear felling in non-forest area (such as submergence area of reservoir, approach roads), if any with	NA

	quantitative information information required	
12	Status of Construction (Actual and or planned)	-
	a) Date of commencement (Actual and or planned)	11/07/2009
	b) Date of completion (Actual and or planned)	Given at Annexure-I
13	Reason for the delay if the project is yet to start	NA

Annexure-1

Status of total capacity of expansion projects of Bhilai Steel Plant

Sl. No.	Major Packages	Status
1	Coke Oven Complex	Completed
2	Sinter Plant Complex	Completed
3	Blast Furnace Complex	Completed
4	SMS-I	-
5	SMS-II	Completed
6	SMS-III	Completed
7	BBM	-
8	Plate Mill	Completed
9	RSM	Completed
10	Merchant Mill	Completed
11	Bar Rod Mill	Completed
12	Universal Beam Mill	Now not coming
13	Wire Rods	Completed
14	Lime & Dolo Plants	Completed
15	Oxygen Plant	Completed
16	Power & Blowing Station	Completed

Annexure-2

Proposed Environment Management Programs under modernization/expansion of BSP

#	Description
1	Rebuilding of Battery # 5
2	Rebuilding of Battery # 6 & 9
3	Secured Landfill for hazardous wastes
4	Tar sludge recycling scheme
5	Improved equipment/facilities to meet the emission control norms of Battery # 1 to 4
6	Hydro refining and extractive distillation of Benzol at CCD
7	Dust extraction system for Cast Houses of BF #7
8	CDI and Tar injection in all the BFs
9	Control of puffing at Converter and dust extraction system at mixer
10	Dust extraction system at cold sinter screen and Junction Houses in Sinter Plants
11	80% BF slag utilization
12	80% BOF slag utilization
13	Utilization of 100% dry-fly ash collection system
14	Stack emission control at RMP-II Rotary Kiln by bag filter in place of scrubber.
15	Recycling of outlets B & C
16	Recycling of treated township sewerage water for industrial use
17	On-line Ambient Air Quality monitoring system
18	Installation of continuous emission monitor in major stacks

Project Code - Industry – Integrated Iron & Steel Plant
Name of the Project-Expansion/Modernization of Bhilai Steel Plant, Steel Authority of India Limited from 4.0 MTPA to 7.0 MTPA
MoEFCC, EC Clearance Details :

1. F.No. J-11011/28/2007- IA II (I) dated 31.03.2008
2. F No. J-11011/28/2007-IAII(I) dtd05.07.2013 (EC Extension Granted)
3. Amendment in EC vide letter no. J-11011/28/2007- IA II (I) dated 15.01.2018

Period of Compliance Report- January-June,2018

Status of Compliance of EC Conditions

#	Specific Condition	Compliance Status by BSP
A-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/Nm ³ . 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.	➤ All projects coming under expansion cum modernization were provided with state-of-the-art pollution control technologies (for reduction of RSPM and Stack emission) which were installed along with the modernization packages. This emissions from all the MODEX units are maintained well below the norms stipulated by State Pollution Control Board i.e. Stack Emission below 50 mg/Nm³. ➤ On-line stack monitoring is being incorporated in all the expansion units& also the existing units covering all major processes & stacks. ➤ Presently Particulate Matter Data from 27 stacks/ducts, SOx from two batteries and effluent data from Outlet “A” is being transmitted to CPCB.
A-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/Nm ³ . 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	➤ At Sinter Plant # 2, the scheme for replacement of Multi-cyclones by ESP for all four nos. of sinter machines is in progress. ➤ At SP-2 for control of fugitive emissions ESP has been provided. ➤ All pollution control systemsprovided in MODEX units (BF-8, SMS-III, COOCD Bat-11, SP-3 M/c-2, RMP-III etc) are complying with the CECB emissionnorm of 50 mg/Nm³. ➤ Sinter Plant III is equipped with ESP based pollution control system. Gas Cleaning Plant have been installed at BF-8, SMS-III and bag filters at RMP-II & III. At SMS-II&III, gas cleaning plant have been installed for the recovery of LD-Gas for use as fuel in the

	extraction system shall be provided in coal crushing and screening, cooler discharge area, product separation area etc. to control fugitive emissions.	process. Power Plant # 1 & PBS-II are equipped with ESP to control particulate emission. The PBS-II boilers installed under MODEX are 100 % gas fired, leading to negligible emissions ➤ Dust suppression system have been installed in new units to control dust/fugitive emissions from coal and iron ore storage area ➤ Dust extraction system has been installed at coal crushing and screening area to control fugitive emission.
A-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.	➤ The appropriate standards prescribed for Coke Oven Batteries is being followed. ➤ Complete utilization of Coke Oven (CO) gas is practiced. ➤ BSP is committed that there will not be any discharge of CO gas into air.
A-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.	➤ Norms and guidelines as per MoEF Notification dated 31st March, 2012, for fugitive and gaseous emission at Blast Furnace and Sinter Plants are being followed.
A-v	Total water requirement from Maroda-II reservoir and Tandula canal after expansion shall not exceed 15,981 m ³ /h. Treated waste water 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 waste water shall be recycled and reused in the process, dust suppression and green belt development 'Zero' effluent discharge shall be strictly followed and no waste water shall be discharged outside the premises. Treated effluent may be discharged only in emergency in water recovery system.	➤ Water consumption is maintained well within the prescribed limits. ➤ Treated effluent from GCP and STP is being recycled back for cooling/ other uses. ➤ Treated Coke Oven effluents from the BOD plant are being used completely for coke quenching. ➤ To achieve Zero Discharge following actions are being taken: ✓ Outlet A discharge water is being recycled. ✓ Outlet B discharges: scheme under finalization. ✓ Outlet C discharges: Under tendering stage. ➤ The effluent discharge norms are maintained as per MoEFCC Notification dated 31st March, 2012
A-vi	Prior 'Permission' for the drawl of additional water from the concerned department shall be obtained.	➤ For drawl of additional water, application has been submitted to Water Resource Department, Govt. of Chhattisgarh on 20/09/2010. ➤ Various meeting and discussion were held with WRD officials since Sep'2010.

		➤ WRD, Govt. of CG vide letter dtd. 05.05.2014 showed their inability to allocate additional 2.0 TMC water to BSP. ➤ However, GM (Utilities) requested again Principal Secretary, WRD, Govt. of CG, dtd. 26.05.2014 for supply of additional 2.0 TMC of water to BSP. ➤ The case is being persuaded regularly with WRD, Govt. of CG. BSP is also trying to meet the additional water required through implementation of recycling scheme. ➤ DGM I/c (WMD) again requested Secretary, WRD, Govt. of CG, dtd. 08.03.2018 for allotment of additional water. ➤ It may kindly be noted that, after the implementation of the various recycling schemes like outlets- B & C and water conservation measures, BSP will be able to meet its industrial & domestic water requirements within the allocated water of 4 TMCft/Year along with the allotment of additional water requested earlier after stabilization of MODEX units & achievement of their rated capacity.
A-vii	Continuous monitoring of Total Organic Compounds (TOC) shall be done at the outlet of effluent treatment plant (BOD plant).	➤ TOC is incorporated in the ongoing revamping scheme of existing Effluent Treatment Plant at Coke Ovens : work is nearing completion. ➤ Details of TOC analyser are as below: Make : E&H Measurement range of 0 – 300 mg TOC/l
A-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.	➤ Coke fines are recycled and reused in Sinter Plants. Similarly Iron Ore, Fluxes and Mill Scales are also recycled to Sinter Plant. ➤ Blast Furnace Slag from BF-8 is being granulated and sold to Cement Plant for Cement making. Cast House Slag granulation facility also exists for BFs 4,5,6 & 7. ➤ Steel slag is recycled in BFs, SMS-1, Sinter Plant and road making. Avenues being searched for enhanced BOF slag utilization in road making , Rail Ballast, and as construction material. ➤ Solid waste is being utilized to the maximum. Remaining waste is being disposed off in an environment friendly manner. ➤ Waste oil is recycled for in-house inferior applications. ➤ All the Hazardous wastes generated in the Plant are either recycled or sold to CECB authorized recyclers. ➤ BSP has also undertaken construction of Secured Landfill for Hazardous waste disposal as per the directive of CECB. The SLF work is in progress
A-ix	All the fly ash shall be utilized as per Fly Ash Notification,	➤ Fly Ash utilization as per current notification is being adhered. Percentage utilization of Fly

	1999 subsequently amendment in 2003.	Ash (100% fly ash generated has been utilized)
A-x	A time bound action plan shall be submitted to reduce solid waste, its proper utilization and disposal.	Following Action undertaken for reduction of solid waste generation: ✓ Beneficiated iron ore is being used for reducing ore consumption. ✓ Only gas fired boiler are installed in PBS-II & no fly-ash is generated from PBS-II. The Boilers in PBS-1 are also operated mostly on bi-product gases. This has resulted in considerable reduction in fly ash generation over the years. ✓ After the stabilization of BF-8, slag rate of 320 kg/THM will be achieved. This is as per the global best standards. ✓ Generation of Mill scale will be gradually reduced after phasing out of BBM, however presently 100% mill scale is recycled.
A-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.	➤ Earlier the area covered under green belt was 31.8% in 2008. Subsequently, as per the direction of DFO (Durg) further plantation has been done to achieve the 33% target. Presently total area under plantation is 1711 hectares (Total plantation done is 32.01 lacs till 2017-18) which is more than 33% of the area.
A-xii	All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Steel plants shall be implemented.	➤ Recommendation made in the Charter on Corporate Responsibility for Environment Protection (CREP) is being implemented as per the guidelines of CPCB and compliance report is being regularly submitted and reviewed by National Task Force (CPCB).

General Conditions:

#	General Condition	Compliance Status by BSP
B-i	The project authorities must strictly adhere to the stipulations made by the Chhattisgarh Environment Conservation Board (CECB) and the State Government.	➤ The stipulations made by Chhattisgarh Environmental Conservation Board (CECB) are being adhered to.
B-ii	No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment and Forests.	➤ Prior approval will be taken if any future expansion is planned.
B-iii	The gaseous emissions from various process units shall conform to the load/mass based standards notified by this Ministry on 19 th May, 1993 and standards prescribed from time to time. The State Board may specify	➤ Gaseous emission from all process and de-dusting stacks are within the norms. Interlocking facilities for process with pollution control equipment exists.

	more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and locations. 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.	
B-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.	➤ Closed conveyors with dust suppression /extraction system are being provided in the expansion/modernization units. ➤ Dust suppression and dust extraction system installed to reduce fugitive emission at major material transfer points and raw materials handling areas at COCCD and OHP. ➤ Centralized de-dusting system equipped with Bag filter/ ESPs have been installed at RMP-II, RMP-III, SMS-III, SP-II, SP-III and BF # 8. ➤ Heights of the stacks have been designed & installed as per the requirement of standards. ➤ Fugitive emissions are being monitored at specified locations & regularly reported.
B-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, SO ₂ 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.	➤ Four online ambient air quality stations have been installed in consultation with CECB. ➤ Data on ambient air quality and stack emission is being sent regularly to CECB/CPCB.
B-vi	Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 22 (E) dated 19 th May 1993 and 31 st December, 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose	➤ Industrial waste water is properly collected and treated. ➤ Industrial treated wastewater from BSP is discharged outside plant boundary from three outlets viz. Outlet A, B and C. ➤ Outlet A discharge water is being recycled. ➤ Outlet B discharges: scheme under finalization stage. ➤ Outlet C discharges: Under tendering stage.
B-vii	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 shall conform to the standards prescribed under EPA Rules, 1989 viz 75 dBA (daytime) and 70 dBA (nighttime).	➤ Noise control measures such as acoustic hoods, enclosures etc. are being implemented at high noise areas like Mills and Oxygen Plants to keep the overall noise level within 85 dBA. ➤ The ambient noise level is at present below the prescribed standard.

B-viii	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	➤ Occupational health surveillance of workers is being done on regular basis and records are maintained.
B-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.	➤ Roof rainwater harvesting scheme implemented at Machine shop shops conserving about 35000 m3 rain water/year. ➤ In township roof rain water system has been implemented at three school and three office buildings. ➤ A tank of 120000 m3 capacity has been made in the township for rain water harvesting.
B-x	The project 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 programs, educational programs, drinking water supply and health care etc.	➤ BSP has installed all the environmental protection measures & safeguards as recommended in EIA/EMP report ➤ BSP is engaged in continuous basis for socioeconomic development of surrounding village as part of CSR activities in the following area: ✓ Education ✓ Road Making ✓ Health ✓ Drinking Water ✓ Community development programme ✓ Economic up-liftment activities etc
B-xi	As proposed, Project authorities shall earmark Rs. 736.50 Crores & Rs. 110.50 Crores toward 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.	➤ Assessment of total capital expenditure and recurring expenditure towards environmental measures in the expansion project is being done. ➤ Six monthly compliance reports are regularly being submitted to MoEFCC
B-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.	➤ Six monthly compliance reports are being sent to MoEF Regional Office Nagpur. Last Report sent on 31 .01.2018.
B-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	➤ BSP had informed the public about the environment clearance through newspaper advertisement in April' 2008 and the same has been forwarded to MoEF Regional Office, Bhopal.

	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.	
B-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.	➤ The final approval of the project was accorded by SAIL Board on 3.4.2007 and the same has been forwarded to MoEF Regional Office, Bhopal.

Observations on the Inspection report issued by RO,MoEFCC, Nagpur on Status of Compliance of EC Conditions

#	Specific Condition	Compliance Status as per letter dtd 02/04/2018 by RO,MOEFCC,Nagpur dtd	Comments of BSP
A-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/Nm ³ . 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.	Compliance under progress Coke oven complex work has been completed for the capacity of 3.94 MTPA. Water sprinkler in coal handling plant, on main charging using steam jet injection and HPLA system has been provided, computerized coal combustion system and land based pushing emission system has been provided. ➤ It was observed that 28 number of online stack monitoring system have been installed by the PP in their existing plant and data on the monitoring of stack emission corresponding to 15 stacks is being submitted to the CPCB since 30.09.2015 onwards. The PP has also informed that all projects proposed for expansion - cum - modernization will be provided with state-of-the- art pollution control technologies to ensure the of RSPM and Stack emission within the permissible limit is 50 mg/Nm³.	Presently the data from all the 30 nos online stack monitoring systems is being transferred to CPCB server. State of the art pollution control systems like ESPs, Bag Filters etc have been installed in MODEX units. The emissions are maintained well below the 50mg/Nm ³ norm.
A-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/Nm ³ . Two-stage Gas	Partially complied with It was observed that Sinter Plant- III is provided with ESP while Sinter Plant Plant-II is still provided with multicyclones. The PP has informed that multicyclones shall be replaced by ESPs for all four nos. of sinter machines shortly. SMS-II has been provided with Gas cleaning Plant while it is being installed at	In Sinter Plant-II multicyclones are being replaced with ESP for better emission control. However it may be noted that even the present system is also functioning quite effectively & meeting the norms. For control of fugitive emissions from the material handling plan area in SP-2 also ESP has been

#	Specific Condition	Compliance Status as per letter dtd 02/04/2018 by RO,MOEFCC,Nagpur dtd	Comments of BSP
	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.	BF-8, SMS-III and bag filters at RMP-II & III. Power Plant has been provided with the ESP to control particulate emission. Dust suppression system needs to be strengthened by the PP as the same appears to be inefficient especially in SMS, coal crushing and screening area.	provided. The dust suppressions systems in coal crusher area has been strengthened
A-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.	Being complied with It was observed that standards prescribed for Coke Oven Batteries are being followed by the PP. CO gas are being used completely by the PP and no discharge of the gas into the atmosphere was observed. Detail of pollution control measures undertaken	
A-iv	Gaseous emission levels including secondary fugitive emissions from blast furnace and sinter plant shall be controlled within the latest	Being complied with It was observed that PP has provided with enclosures and appropriate protective measures viz. exhaust fan, suction hoods to keep the gaseous emission within the norms. Detail of pollution control	

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	permissible limits issued by the Ministry and regularly monitored. Guidelines / Code of Practice issued by the CPCB shall be followed.	measures undertaken by the PP so far is enclosed at Annexure-I.	
A-v	Total water requirement from Maroda-II reservoir and Tandula canal after expansion shall not exceed 15,981 m ³ /h. Treated waste water 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 waste water shall be recycled and reused in the process, dust suppression and green belt development 'Zero' effluent discharge shall be strictly followed and no waste water shall be discharged	Being complied with The PP has informed that water consumption is within the stipulated limit. It was informed that water consumption during the year 2016-17 was 2.779 cum/tcs against the norms of 5 cum/tcs. Detail of annual water consumption of the PP is enclosed at Annexure-II. The PP has further informed that treated effluent from the GCP and STP is re-used for back cooling and horticulture and other similar uses. Treated Coke Oven effluents from the BOD plant are being used completely for coke quenching. No treatment of waste industrial water is being observed to be undertaken by the PP. Industrial waste water released from the plant is received in the Maroda-II pond and after cooling it is again used in the plant. No reports on the monitoring of water discharged into the pond were made available by the PP. ➤ Further, the PP has three outlets for discharge of storm water outside their premises. At present water from Outlet A only is being recycled while provisions for recycling and reusing the water from the Outlet B and C are yet to be implemented by the PP.	Water consumption is maintained well within the prescribed limits. Treated effluent from GCP and STP is being recycled back for cooling/ other uses. Treated Coke Oven effluents from the BOD plant are being used completely for coke quenching. To achieve Zero Discharge following actions are being taken: • Outlet A discharge water is being recycled. • Outlet B discharges: scheme under finalization. • Outlet C discharges: Tendering in progress. The effluent discharge norms are maintained as per MoEFCC Notification dated 31st March, 2012

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	outside the premises. Treated effluent may be discharged only in emergency in water recovery system.		
A-vi	Prior 'Permission' for the drawl of additional water from the concerned department shall be obtained.	Not complied with It was observed that prior permission for drawl of additional water of 2.0 TMC is yet to be obtained by the PP from the Water Resource Department, Govt. of Chhattisgarh.	For drawl of additional water, application has been submitted to Water Resource Department, Govt. of Chhattisgarh on 20/09/2010. Various meeting and discussion were held with WRD officials since Sep'2010. WRD, Govt. of CG vide letter dtd. 05.05.2014 showed their inability to allocate additional 2.0 TMC water to BSP. However, GM (Utilities) requested again Principal Secretary, WRD, Govt. of CG, dtd. 26.05.2014 for supply of additional 2.0 TMC of water to BSP. The case is being persuaded regularly with WRD, Govt. of CG. BSP is also trying to meet the additional water required through implementation of recycling scheme. DGM I/c (WMD) again requested Secretary, WRD, Govt. of CG, dtd. 08.03.2018 for allotment of additional water. It may kindly be noted that, after the implementation of the various recycling schemes like outlets- B & C and water conservation measures, BSP will be able to meet its industrial & domestic water

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			requirements within the allocated water of 4TMCft/Year along with the allotment of additional water requested earlier after stabilization of MODEX units & achievement of their rated capacity.
A-vii	Continuous monitoring of Total Organic Compounds (TOC) shall be done at the outlet of effluent treatment plant (BOD plant).	Not complied with Provisions for the continuous monitoring of Total Organic Compounds (TOG) have not been done by the PP.	TOC is incorporated in the ongoing revamping scheme of existing Effluent Treatment Plant at Coke Ovens : work is nearing completion. Details of TOC analyser are as below: Make : E&H Measurement range of 0 – 300 mg TOC/l
A-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-	Being complied with It was informed that coke fines are recycled and reused in Sinter Plants. Iron Ore, Fluxes and Mill Scales are also recycled to Sinter Plant. Steel slag is recycled in BF, SMS-I, Sinter Plant and road making. It was also informed that possibilities are being explored by the PP to enhance BOF slag utilization in road making, Rail Ballast construction. The PP has further informed that almost entire solid waste is utilized. Waste oil is recycled for in-house inferior applications.	

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	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.		
A-ix	All the fly ash shall be utilized as per Fly Ash Notification, 1999 subsequently amendment in 2003.	Being complied with It was informed that fly ash is being utilized as ➤ per the existing notification. It was informed by the PP 100% of fly ash is utilized by them. As per the detail made available by the PP, it was observed that ash generated from the plant is being used in road construction and filling of low lying areas	
A-x	A time bound action plan shall be submitted to reduce solid waste, its proper utilization and disposal.	Complied with PP has informed that measures like use of beneficiated iron ore, gas fired boiler to eliminate flyash generation, low slag rate, reduction in millscale etc., will be undertaken for reduction of solid waste generation. An action plan submitted by the PP is enclosed at Annexure-IV.	
A-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.	Complied with ➤ It was informed that a total of 1714 ha has been planted by the PP in their premises which accounts for 33.6% of the total area of the Plant. Year wise detail of plantation undertaken by the PP is enclosed at Annexure-V	In the year 2017-18 39,200 trees have been planted in the Township & in 18-19, 97,500 more trees will be planted in the township through Chhattisgarh Van Vikas Ltd.
A-xii	All the recommendations made	➤ Recommendation made in the Charter on	

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	in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Steel plants shall be implemented.	Corporate Responsibility for Environment Protection (CREP) is being implemented as per the guidelines of CPCB and compliance report is being regularly submitted and reviewed by National Task Force (CPCB). A report on the same, as made available by the PP is enclosed at Annexure-VI.	

General Conditions:

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B-i	The project authorities must strictly adhere to the stipulations made by the Chhattisgarh Environment Conservation Board (CECB) and the State Government.	The PP has consented to this condition. A copy of the updated compliance report on the conditions stipulated by the CECB, as made available by the PP is enclosed at Annexure-VII.	
B-ii	No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment and Forests.	The PP has consented to this condition..	
B-iii	The gaseous emissions from various process units shall conform to the load/mass based standards notified by this Ministry on 19 th May, 1993 and standards prescribed from time to time. The State Board may specify more stringent standards for the	Being complied with It was observed that 28 number of online stack monitoring system have been installed by the PP in their existing plant and data on the monitoring of stack emission and ambient air quality is being submitted to the CPCB since 30.09.2015 onwards. The PP has also informed that all	

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	relevant parameters keeping in view the nature of the industry and its size and locations. 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.	projects proposed for expansion - cum - modernization will be provided with state-of-the-art pollution control technologies to ensure the of RSPM and Stack emission within the permissible limit is 50 mg/Nm ³ . PP has further informed that interlocking facilities have been provided to stop the production process automatically in case emission level exceeds the limit. Detail of pollution control measures installed by the PP is enclosed at Annexure-I.	
B-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.	Partially complied with Dust suppression system needs to be further strengthened by the PP especially in SMS and BF areas. Dust suppression and dust extraction system have been installed at major material transfer points and raw materials handling areas to reduce fugitive emission at COCCO and OHP. The PP has further informed that centralized de-dusting system equipped with Bag filter/ ESPs are being installed at RMP-11, RMP-III, SP-II, SP-III and BF-8. Fugitive emissions are being monitored at specified locations. Certain places of the plant near SMS were observed with oil/grease based effluents, which are conspicuously visible. No provisions for their safe disposal and to prevent mixing of such effluents with storm water have been provided by the PP. Provisions for oil/grease separator/ ETP to prevent its mixing with the	Dust suppression systems in SMS-1 & BF areas have been strengthened by undertaking extensive maintenance jobs. The traces of oil & grease observed during inspection in the sludge separation tanks of SMS-II are passed through oil separation units (provided after sludge separation tanks) & only treated effluents are recycled. At BSP, no storm water is allowed to mix with process effluents. The process effluents are 100% recycled. There is separate storm water drainage system provided in BSP.

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	Fugitive emissions shall be regularly monitored and records maintained.	storm water and safe their disposal should be ensured by the PP. Detail of pollution control measures installed by the PP is enclosed at Annexure-1.	
B-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, SO ₂ 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.	Partially Complied with Four online ambient air quality stations have been installed in consultation with CECB. It was further informed that data on ambient air quality and stack emission is being sent regularly to CECB/CPCB. However, a report on the monitoring of ambient Air Quality was not made available during the inspection..	A report on the monitoring of ambient Air Quality has been subsequently sent to MOEFCC Nagpur office .
B-vi	Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 22 (E) dated 19 th May 1993 and 31 st December, 1993 or as amended form time to time. The treated wastewater shall be utilized for plantation purpose	Partially complied with ➤ No ETP has been has been constructed by the PP in their premises. One STP has been constructed by the PP in their residential colony to treat domestic sewage. The PP has further informed that industrial treated water from BSP is discharged outside plant boundary from three outlets viz. Outlet A, B and C. A water sample analysis report from the Maroda pond as made available by the PP is enclosed at Annexure-VIII. ➤ At present water from Outlet A only is being recycled while provisions for recycling and	➤ Every shop has been provided with ETPs like Biological Oxidation & dephenolization (BOD) plant for COCCD, Radial/Horizontal Settling tanks for BFs, SMS, SPs. Horizontal Settling tanks along with oil separators for Mills zone etc have been provided for treatment of process effluents. All the shop effluents only after proper treatment are allowed to enter recycling cooling pond.

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		reusing the water from the Outlet B and C are yet to be implemented by the PP	
B-vii	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 shall conform to the standards prescribed under EPA Rules, 1989 viz 75 dBA (daytime) and 70 dBA (nighttime).	Being complied with It was observed that noise control measures such as acoustic hoods, enclosures etc. are being implemented at high noise areas. A monitoring report on noise level, as made available by the PP, is enclosed at Annexure-IX is at present below the prescribed standard.	
B-viii	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Being complied with ➤ It was informed that occupational health surveillance of workers is being done on regular basis and records are maintained. Detail on the same, as made available by the PP, is enclosed at Annexure-X.	
B-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.	Being complied with ➤ It was observed that the PP has constructed roof rainwater harvesting scheme at Machine shop Shops. ➤ conserving about 35000 m ³ rain water annually. In addition to this, roof rain water systems have been constructed in the township at three schools and three office buildings. The PP has also constructed a tank of 120000 m ³ capacity in the township for rain	

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		water harvesting.	
B-x	The project 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 programs, educational programs, drinking water supply and health care etc.	Being complied with ➤ It was informed that the company is strictly adhering to its commitments made in the EIA/EMP for environment protection measures. ➤ It was also informed that CSR activities in the fields of education, road construction, health, drinking water, community development and economic upliftment activities, etc. are being undertaken on continuous basis for socioeconomic development of surrounding village. Detail of expenditure incurred by the PP on the CSR is enclosed at Annexure-XI.	
B-xi	As proposed, Project authorities shall earmark Rs. 736.50 Crores & Rs. 110.50 Crores toward 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	Partially complied with The PP has informed that capital cost and recurring expenditure earmarked towards environmental measures in the expansion project is in process and once the project will be completed total capital cost and recurring cost shall be assessed. Detail of expenditure incurred from Rs. 736.50 Crores & Rs. 110.50 Crores toward capital cost and recurring cost/annum for environmental pollution control measures has not been made available by the PP. Detail of environment expenditure incurred by the PP is enclosed at Annexure-XII.	The total CAPEX against MODEX projects particularly against Environment Protection Schemes is in the process of being worked-out.

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	purpose.		
B-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.	The PP has consented to this condition.	
B-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.	Partially complied with The PP as informed the public about the environment clearance through newspaper advertisement in April' 2008 and the same has been forwarded to MoEF Regional Office, Bhopal. However, copy of documentary evidences in the form of new paper cutting was not made available by the PP..	BSP had informed the public about the environment clearance through newspaper advertisement in April'2008 and the same has been forwarded to MoEF Regional Office, Bhopal at that time. However as it is more than 10 years since EC was granted to BSP, these newspaper cuttings are presently untraceable.
B-xiv	Project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure	It was informed that final approval of the project was accorded by SAIL Board on 3.4.2007 and the same has been forwarded to MoEF Regional	

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	and final approval of the project by the concerned authorities and the date of commencing the land development work.	Office, Bhopal.	