

**Ministry of Environment, Forest and Climate Change  
Impact Assessment Division  
(Industry-I Sector)**

**SUMMARY RECORD OF THE TWENTY- FIFTH (25<sup>TH</sup>) SPECIAL MEETING OF EXPERT APPRAISAL COMMITTEE HELD ON 20<sup>TH</sup> NOVEMBER 2017 FOR ENVIRONMENTAL APPRAISAL OF INDUSTRY-I SECTOR PROJECTS CONSTITUTED UNDER EIA NOTIFICATION, 2006.**

The Twenty-fifth meeting (SPECIAL) of the Expert Appraisal Committee (EAC) for Industry-I Sector as per the provisions of the EIA Notification, 2006 for Standardization of EC conditions of Industry-I Projects / Activities was held on 20<sup>th</sup> November 2017 in the Ministry of Environment, Forest and Climate Change. The list of participants is annexed.

25.1 After welcoming the Committee Members, discussion on each of the agenda items was taken up ad-seriatim.

**25.2 Confirmation of the minutes of the 24<sup>th</sup> Meeting**

The minutes of the 24<sup>th</sup> meeting, as circulated were confirmed.

**25.3.** Modernization-cum-expansion of Bhilai Steel Plant (Crude Steel capacity from 4 MTPA to 7.0 MTPA; Captive Power Plant - 76 MW; TRT -14 MW & CDCP – 4 MW; Total Power Generation: 94 MW) at Bhilai, Chhattisgarh by **M/s Steel Authority of India Limited** [Proposal No IA/CG/IND/67971/2017; MoEF&CC File No. IA-J-11011/28/2007-IA.II(I)] – **Amendment in Environmental Clearance.**

1.0 **M/s Steel Authority of India Limited** has made online application vide proposal no. IA/CG/IND/67971/2017 dated **8<sup>th</sup> November 2017** seeking amendments in Earlier Environmental Clearance granted vide File No. IA-J-11011/28/2007-IA.II(I), dated 31<sup>st</sup> March 2008.

2.0 M/s. Bhilai Steel Plant (BSP) is established in 1956 and since then there has been phases of expansion. The Environmental Clearance (EC) for 4.0 MTPA to 7.0 MTPA Modernization-Cum-Expansion Plan of Bhilai Steel Plant along with Captive Power Plant has been accorded by MoEFCC dated 31.03.2008 with amendments dated 23.06.2011 and 23.07.2014. The EC validity was extended up to 30.03.2018 by MoEFCC vide letter dtd. 05.07.2013. Consent to Establish was accorded by Chhattisgarh Environment Conservation Board (CECB) vide Ir. no. 12981/TS/CECB/2009 dated 01.06.2009.

4.0 Now, M/s. Bhilai Steel Plant (BSP), Steel Authority of India Limited (SAIL) proposed for amendments in Environmental Clearance accorded vide Ir.no. J-11011/28/2007-IA II (I) dated 31.03.2008 for modernization cum expansion of 4.0 MTPA to 7.0 MTPA Modernization-Cum-Expansion Plan of Bhilai Steel Plant along with captive power plant. BSP is presently based on Blast Furnace-Twin Hearth Furnace (BF-THF) and BF- Basic Oxygen Furnace (BF-BOF) routes for production of iron and steel. Under the ongoing modernization-cum-expansion plan the crude steel production capacity is envisaged to be 7.0 MTPA within the existing premises of BSP.

5.0 It was informed that during execution of the project after detailed design engineering certain changes are envisaged in the configuration of the plant from the Environmental Clearance conditions, without any change in crude steel production. Further, certain changes in the product

mix are envisaged without any change in finished steel production capacity. Moreover, there will be a decrease in overall pollution load from that envisaged during the EC 2008.

6.0 The proposed amendments are as follows:

Sl.	Units	7.0 MTPA Expansion EC Accorded valid upto 31.03. 2018	Amendment Requested/ Changes Proposed	Change in Capacity
<b>Sinter Plant Complex</b>				
	Sinter Plant-3 M/c 2	1x 320 m <sup>2</sup> (new)	Change in grate area 1x360 m <sup>2</sup> (new)	
	<b>Total Sinter Production</b>	<b>9.235 MTPA</b>	<b>9.235 MTPA</b>	<b>No Change</b>
<b>Coke Oven Complex</b>				
	Coke Oven Battery 1 to 11	Battery No. 1, 7 & 8 to be phased out	At any time, three batteries will not be in operation (will always be under cold repair / rebuilding cycle). Total Coke production will be same as per accorded EC.	
	<b>Total Capacity</b>	<b>3.94 MTPA</b>	<b>3.94 MTPA</b>	<b>No Change</b>
<b>Rolling Mills</b>				
a.	Universal Beam Mill	1.0 MTPA	Now not coming	-1.00 MTPA
b.	Rail & Structural Mill (RSM) with new Universal Rail Mill (URM)	1.70 MTPA	2.20 MTPA	+0.50 MTPA
c.	Plate Mill	1.42 MTPA	1.65 MTPA	+0.23 MTPA
d.	Merchant Mill	0.60 MTPA	0.85 MTPA	+0.25 MTPA
e.	Wire Rod Mill	0.68 MTPA	0.70 MTPA	+0.02 MTPA
f.	Bar and Rod Mill	0.90 MTPA	0.90 MTPA	-
	<b>Total Capacity</b>	<b>6.30 MTPA</b>	<b>6.30 MTPA</b>	<b>No Change</b>
<b>Power Blowing Station</b>				
	PBS I	Existing 3x12 MW Turbo-generators to be upgraded to 1 x 12 MW + 2 x 15 MW	Turb-generators not up- graded, 3 x 12 MW (Existing)	
	PBS II	2 x 170 TPH BF gas fired boiler 1 x 15 MW turbo- generator.	2 x 150 TPH BF gas fired boiler 1 x 25 MW turbo- generator	

Sl.	Units	7.0 MTPA Expansion EC Accorded valid upto 31.03. 2018	Amendment Requested/ Changes Proposed	Change in Capacity
	<b>Total Power Generation (MW) &amp; Steam Generation (TPH)</b>	<b>1390 TPH Steam 72 MW</b>	<b>1350 TPH Steam 76 MW</b>	<b>-40 TPH Steam +4 MW</b>
	<b>TRT</b>	Power Generation Capacity not specified	14 MW	<b>Green power from TRT indicated</b>
	<b>CDCP</b>	Power Generation Capacity not specified	4MW	<b>Green power (from CDCP indicated</b>
	<b>Blast Furnace</b>			
	BF 6 with CDI	Modernisation Volume from 1719 m <sup>3</sup> to 2000 m <sup>3</sup>	Modernisation not undertaken Volume - 1719 m <sup>3</sup>	
	<b>Total Hot metal Production</b>	<b>7.5 MTPA</b>	<b>7.5 MTPA</b>	<b>No Change</b>

7.0 The hot metal, crude steel and finished steel production will be same as envisaged in EC 2008, i.e. 7.5 MTPA, 7.0 MTPA and 6.3 MTPA, respectively.

8.0 The assessment of change in production capacity, resource requirements and pollution load due to the proposed amendment shows that:

- No change in hot metal, crude steel and finished steel production as envisaged at EC stage;
- No change in sinter and coke production as envisaged at EC stage;
- Decrease in overall pollution load from that envisaged during the EC stage;
- No change in raw material requirement as envisaged at EC stage;
- No change in power requirement as envisaged at EC stage;
- No change in fuel gas requirement as envisaged at EC stage;
- No change in land area requirement as envisaged at EC stage;
- No change in water requirement as envisaged at EC stage; and
- No change in solid waste generation and its management as envisaged at EC stage;

9.0 The sub-committee visited the site during 30<sup>th</sup> – 31<sup>st</sup> October 2017 for ToR proposal made by the project proponent and deliberated in the 24<sup>th</sup> EAC meeting held during 13<sup>th</sup> – 15<sup>th</sup> November 2017 and recommended for issue of ToR.

10.0 During the site visit, the sub-committee also recommended to seek amendments for the proposed changes in the configurations which will be completed before March 2018 i.e. within the validity of existing EC.

11.0 After detailed deliberations, based on the site visit recommendations, the committee recommended for amendment for the proposed changes in the configuration as given in the table at pre-para (6).

#### **25.4. Standardization of EC conditions for the Industry-I Sector Projects / Activities.**

1.0 The committee deliberated on the EC conditions for following sectors:

- Integrated Iron and Steel Plants;
- Coke Oven Plants;
- Sponge Iron (DRI) Plants;
- Pellet Plants;
- Induction Furnace and Rolling Mills; and
- Integrated Cement Plants.

2.0 The following set of EC conditions has been recommended by the committee:

#### **1. Integrated Iron and Steel Plants:**

##### **A. General Conditions:**

1. The project proponent shall:

- a. install 24x7 continuous emission monitoring system at all the stacks to monitor stack emission with respect to parameters prescribed in G.S.R 277 (E) dated 31<sup>st</sup> March 2012; G.S.R 414 (E) dated 30<sup>th</sup> May 2008; S.O. 3305 (E) dated 7<sup>th</sup> December 2015 as amended from time to time and connected to CPCB online;
- b. monitor fugitive emissions in the plant premises;
- c. carryout Continuous Ambient Air Quality monitoring as per National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 (as amended from time to time) within and outside the plant area at least at four locations covering upwind and downwind directions at an angle of 120° each;
- d. install continuous monitoring system for particulate matter on bag filter of land based APC for coke pushing emission control;

- e. install cameras at suitable locations for 24X7 recording of battery emissions on the both sides of coke oven batteries and videos shall be preserved for at least one-month recordings;
  - f. provide sampling facility at suitable location as per CPCB guidelines at quenching tower to measure particulate emission during wet quenching of coke; and
  - g. submit monitoring report to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.
2. The project proponent shall
- a) install 24x7 continuous effluents monitoring system at all the discharge points to monitor treated effluents with respect to parameters prescribed in G.S.R 277 (E) 31<sup>st</sup> March 2012; G.S.R 414 (E) dated 30<sup>th</sup> May 2008; S.O. 3305 (E) dated 7<sup>th</sup> December 2015 as amended from time to time;
  - b) provide minimum facility of online monitoring of pH and DO level in all aeration basins provided in Biological Oxidation plant of COBP;
  - c) monitor regularly ground water through sufficient numbers of piezometers in the plant and adjacent areas; and
  - d) submit monitoring report to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.
3. The project proponent shall
- a) provide appropriate Air Pollution Control (APC) system for all the dust generating points including fugitive dust from all vulnerable sources;
  - b) design suitable capacity of bag filters to handle gas/air shall be 150% of the normal flow from process/ from suction hoods to achieve particulate emission to less than 30 mg/Nm<sup>3</sup>;
  - c) provide leakage detection and mechanised bag cleaning facilities for better maintenance of bags;
  - d) explore the feasibility of installation of Dry Gas Cleaning Plant with bag filter for Blast Furnace;
  - e) explore the feasibility of installation of Dry Gas Cleaning Plant with bag filter or ESP for Converter Gas in SMS;
  - f) provide secondary emission control system at SMS Converters;
  - g) provide pollution control system in the steel plant as per the CREP Guidelines of CPCB;
  - h) provide sufficient number of mobile or stationery vacuum cleaners to clean plant roads, shop floors, roofs regularly;

- i) recycle and reuse iron ore fines, coal and coke fines, lime fines and such other fines collected in the pollution control devices and vacuum cleaning devices in the process after briquetting/ agglomeration;
  - j) use leak proof trucks/dumpers carrying coal and other raw materials and cover them with tarpaulin;
  - k) provide facilities for spillage collection for coal and coke on wharf of coke oven batteries (Chain conveyors, land based industrial vacuum cleaning facility);
  - l) install land based APC system to control coke pushing emissions;
  - m) also monitor CO, HC and O<sub>2</sub> in flue gases of the coke oven battery to detect combustion efficiency and cross leakages in the combustion chamber;
  - n) provide vapour absorption system in place of vapour compression system for cooling of coke oven gas in case of recovery type coke ovens;
  - o) provide catalytic conversion of NH<sub>3</sub> to N<sub>2</sub> in coke oven gas for reduction of NO<sub>x</sub> emissions in combustion facilities using CO gas;
  - p) in case concentrated ammonia liquor is incinerated, adopt high temperature incineration to destroy Dioxins and Furans. Suitable NO<sub>x</sub> control facility shall be provided to meet the prescribed standards;
  - q) the coke oven gas be subjected to desulphurization if the sulphur content in the coal exceeds 1%;
  - r) provide wind shelter fence and chemical spraying on the raw material stock piles; and
  - s) design the ventilation system for adequate air changes as per ACGIH document for all tunnels, motor houses, Oil Cellars.
4. The project proponent shall:
- a) provide the ETP for coke oven and by-product to meet the standards prescribed in G.S.R 277 (E) 31<sup>st</sup> March 2012 as amended from time to time;
  - b) adhere to 'zero liquid discharge';
  - c) provide Sewage Treatment Plant for domestic wastewater;
  - d) provide garland drains and collection pits for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off;
  - e) provide tyre washing facilities at the entrance of the plant gates;
  - f) explore extensive use of RO technology to recycle permeate to the plant to reduce fresh water demand;

- g) introduce CO<sub>2</sub> injection in GCP of SMS to reduce pH in circulating water to ensure optimal recycling of treated water for converter gas cleaning; and
  - h) install RO for water softening in place of conventional water softening that use huge amount of salt in order to reduce TDS in plant water system and increase recycling to conserve water.
5. The project proponent shall
- a) practice rainwater harvesting to maximum possible extent;
  - b) not use treated water from ETP of COBP for coke quenching;
  - c) provide water meters at the inlet to all unit processes in the steel plants; and
  - d) make efforts to minimise water consumption in the steel plant complex by segregation of used water, practicing cascade use and by recycling treated water.
6. The PP shall:
- a) provide TRTs to recover energy from top gases of Blast Furnaces;
  - b) provide CDQ for coke quenching for both recovery and non-recovery type coke ovens;
  - c) practice waste heat recovery from Sinter Plants coolers and Sinter Machines;
  - d) use torpedo ladle for hot metal transfer as far as possible. If not use ladles covers for open top ladles;
  - e) use hot charging of slabs and billets/blooms as far as possible;
  - f) provide waste heat recovery systems in all units where the flue gas or process gas exceeds 300°C;
  - g) explore feasibility to install WHRS at Waste Gases from BF stoves; Sinter Machine; Sinter Cooler, and all reheating furnaces and if feasible shall be installed;
  - h) restrict Gas flaring to < 1%;
  - i) provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;
  - j) provide LED lights in their offices and residential areas; and
  - k) ensure installation of regenerative type burners on all reheating furnaces.
7. Dry quenching (CDQ) system shall be installed along with power generation facility from waste heat recovery from hot coke.

8. In case of Non-Recovery coke ovens, the gas main carrying hot flue gases to the boiler, shall be insulated to conserve heat and to maximise heat recovery.
9. Tar Sludge and waste oil shall be blended with coal charged in coke ovens (applicable only to recovery type coke ovens).
10. Carbon recovery plant to recover the elemental carbon present in GCP slurries for use in Sinter plant shall be installed.
11. Waste recycling Plant shall be installed to recover scrap, metallic and flux for recycling to sinter plant and SMS.
12. Used refractories shall be recycled as far as possible.
13. SMS slag after metal recovery in waste recycling facility shall be conditioned and used for road making, railway track ballast and other applications. PP shall install a waste recycling facility to recover metallic and flux for recycle to sinter plant. PP shall establish linkage for 100% reuse of rejects from Waste Recycling Plant.
14. 100% utilization of fly ash shall be ensured. All the fly ash shall be provided to cement and brick manufacturers for further utilization and Memorandum of Understanding shall be submitted to the Ministry's Regional Office
15. Sufficient number of colour coded waste collection bins shall be constructed at shop floors in each shop to systematically segregate and store waste materials generated at the shop floors (other than Process waste) in designated coloured bins for value addition by promoting reuse of such wastes and for good housekeeping.
16. The PP shall prepare GHG emissions inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration including plantation.
17. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
18. The PP shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms of Factory Act.
19. The PP shall adhere to the corporate environmental policy and system of the reporting of any infringements/ non-compliance of EC conditions at least once in a year to the Board of Directors and the copy of the board resolution shall be submitted to the MoEF&CC as a part of six-monthly report.
20. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Iron and Steel plants shall be implemented.
21. A dedicated environmental cell with qualified personnel shall be established. The head of the environment cell shall report directly to the head of the organization.



22. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, 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.
23. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
24. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
25. The waste oil, grease and other hazardous waste like acidic sludge from pickling, galvanising, chrome plating mills etc. shall be disposed of as per the Hazardous & Other waste (Management & Transboundary Movement) Rules, 2016. Coal tar sludge shall be recycled to coke ovens.
26. Oil Collection pits shall be provided in oil cellars to collect and reuse/recycle spilled oil. Oil collection trays shall be provided under coils on saddles in cold rolled coil storage area
27. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dB(A) during day time and 70 dB(A) during night time.
28. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
29. The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report.
30. The project proponent shall:
  - a. send a copy of environmental clearance letter to the heads of Local Bodies, Panchayat, Municipal bodies and relevant offices of the Government;
  - b. put on the clearance letter on the web site of the company for access to the public.
  - c. inform the public through advertisement 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 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, Forests and Climate Change (MoEF&CC) at <http://envfor.nic.in>.
  - d. upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same periodically;
  - e. monitor the criteria pollutants level namely; PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company;
  - f. 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&CC, the respective Zonal Office of CPCB and the SPCB;

- g. submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company;
- h. 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.

### **B. Specific conditions:**

1. An amount of Rs----- proposed towards Enterprise Social Commitment (ESC) shall be utilized as capital expenditure in project mode. The project shall be completed in concurrence with the implementation of the expansion and estimated on the basis of Scheduled Rates.
2. Green belt shall be developed in ----- Ha equal to 33% of the plant area with a native tree species in accordance with CPCB guidelines. The greenbelt shall inter alia cover the entire periphery of the plant.
3. The Capital cost Rs. ----- and annual recurring cost Rs. ----- towards the environmental protection measures shall be earmarked separately. The funds so provided shall not be diverted for any other purpose.
4. An attrition grinding unit to improve the bulk density of BF granulated slag from 1.0 to 1.5 Kg/l. shall be installed to use slag as river sand in construction industry.
5. Kitchen waste shall be composted or converted to biogas for further use.

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## **2.0 Coke Oven Plants**

### **A. General Conditions:**

1. The project proponent shall:
  - a. install 24x7 continuous emission monitoring system at all the stacks to monitor stack emission with respect to parameters prescribed in G.S.R 277 (E) dated 31<sup>st</sup> March 2012; as amended from time to time and connected to CPCB online;
  - b. monitor fugitive emissions in the plant premises;
  - c. carryout Continuous Ambient Air Quality monitoring as per National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 (as amended from time to time) within and outside the plant area at least at four locations covering upwind and downwind directions at an angle of 120° each;

- d. install continuous monitoring system for particulate matter on bag filter of land based APC for coke pushing emission control;
  - e. install cameras at suitable locations for 24X7 recording of battery emissions on the both sides of coke oven batteries and videos shall be preserved for at least one-month recordings;
  - f. provide sampling facility at suitable location as per CPCB guidelines at quenching tower to measure particulate emission during wet quenching of coke; and
  - g. submit monitoring report to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.
2. The project proponent shall:
- a) install 24x7 continuous effluents monitoring system at all the discharge points to monitor treated effluents with respect to parameters prescribed in G.S.R 277 (E) 31<sup>st</sup> March 2012; as amended from time to time;
  - b) provide minimum facility of online monitoring of pH and DO level in all aeration basins provided in Biological Oxidation plant of COBP;
  - c) monitor regularly ground water through sufficient numbers of piezometers in the plant and adjacent areas; and
  - d) submit monitoring report to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.
3. The project proponent shall:
- a) provide appropriate Air Pollution Control (APC) system for all the dust generating points including fugitive dust from all vulnerable sources;
  - b) provide pollution control system in the steel plant as per the CREP Guidelines of CPCB;
  - c) design capacity of bag filters to handle gas/air shall be 150% of the normal flow from process/ from suction hoods to achieve particulate emission to less than 30 mg/Nm<sup>3</sup>;
  - d) provide sufficient number of mobile or stationery vacuum cleaners to clean floors and roofs in the coke oven complex;
  - e) recycle and reuse coal and coke fines collected in the pollution control devices and vacuum cleaning devices in the process;
  - f) use leak proof trucks/dumpers carrying coal and other raw materials and cover them with tarpaulin;
  - g) provide wind shelter fence and chemical spraying on the raw material stock piles;

- h) provide facilities for spillage collection for coal and coke on wharf of coke oven batteries (Chain conveyors, land based industrial vacuum cleaning facility);
  - i) install land based APC system to control coke pushing emissions;
  - j) also monitor CO, HC and O<sub>2</sub> in flue gases of the coke oven battery to detect combustion efficiency and cross leakages in the combustion chamber;
  - k) provide vapour absorption system in place of vapour compression system for cooling of coke oven gas in case of recovery type coke ovens;
  - l) provide catalytic conversion of NH<sub>3</sub> to N<sub>2</sub> in coke oven gas for reduction of NO<sub>x</sub> emissions in combustion facilities using CO gas;
  - m) in case concentrated ammonia liquor is incinerated, adopt high temperature incineration to destroy Dioxins and Furans. Suitable NO<sub>x</sub> control facility shall be provided to meet the prescribed standards;
  - n) the coke oven gas be subjected to desulphurization if the sulphur content in the coal exceeds 1%.
4. The project proponent shall:
- a) provide the ETP for coke oven and by-product to meet the standards prescribed in G.S.R 277 (E) 31<sup>st</sup> March 2012 as amended from time to time;
  - b) adhere to 'zero liquid discharge';
  - c) provide Sewage Treatment Plant for domestic wastewater;
  - d) provide garland drains and collection pits for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.
5. The project proponent shall
- a) practice rainwater harvesting to maximum possible extent;
  - b) not use treated water from ETP of COBP for coke quenching;
  - c) provide water meters at the inlet to all unit processes in the steel plants; and
  - d) make efforts to minimise water consumption in the steel plant complex by segregation of used water, practicing cascade use and by recycling treated water.
6. Dry quenching (CDQ) system shall be installed along with power generation facility from waste heat recovery from hot coke.
7. In case of Non-Recovery coke ovens, the gas main carrying hot flue gases to the boiler, shall be insulated to conserve heat and to maximise heat recovery.

8. Tar Sludge and waste oil shall be blended with coal charged in coke ovens (applicable only to recovery type coke ovens).
9. Used refractories shall be recycled as far as possible.
10. Sufficient number of colour coded waste collection bins shall be constructed at shop floors in each shop to systematically segregate and store waste materials generated at the shop floors (other than Process waste) in designated coloured bins for value addition by promoting reuse of such wastes and for good housekeeping.
11. The PP shall prepare GHG emissions inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration including plantation.
12. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
13. The PP shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms of Factory Act.
14. The PP shall adhere to the corporate environmental policy and system of the reporting of any infringements/ non-compliance of EC conditions at least once in a year to the Board of Directors and the copy of the board resolution shall be submitted to the MoEF&CC as a part of six-monthly report.
15. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the coke oven plants shall be implemented.
16. A dedicated environmental cell with qualified personnel shall be established. The head of the environment cell shall report directly to the head of the organization.
17. The project proponent shall provide for solar lighting system for all common areas, street lights, parking around project area and maintain the same regularly.
18. provide the project proponent for LED lights in their offices and residential areas
19. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, 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.
20. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
21. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
22. Proper handling, storage, utilization and disposal of all the hazardous and other waste shall be carried as per the provisions of Hazardous & Other waste (Management & Transboundary Movement) Rules, 2016.

23. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dB(A) during day time and 70 dB(A) during night time.
24. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
25. The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report.
26. The project proponent shall:
  - a. send a copy of environmental clearance letter to the heads of Local Bodies, Panchayat, Municipal bodies and relevant offices of the Government;
  - b. put on the clearance letter on the web site of the company for access to the public.
  - c. inform the public through advertisement 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 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, Forests and Climate Change (MoEF&CC) at <http://envfor.nic.in>.
  - d. upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same periodically;
  - e. monitor the criteria pollutants level namely; PM10, SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company;
  - f. 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&CC, the respective Zonal Office of CPCB and the SPCB;
  - g. submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company;
  - h. 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.

**B. Specific conditions:**

1. An amount of Rs----- proposed towards Enterprise Social Commitment (ESC) shall be utilized as capital expenditure in project mode. The project shall be completed in concurrence with the implementation of the expansion and estimated on the basis of Scheduled Rates.
2. Green belt shall be developed in ----- Ha equal to 33% of the plant area with a native tree species in accordance with CPCB guidelines. The greenbelt shall inter alia cover the entire periphery of the plant.

3. The Capital cost Rs. ----- and annual recurring cost Rs. ----- towards the environmental protection measures shall be earmarked separately. The funds so provided shall not be diverted for any other purpose.
4. Kitchen waste shall be composted or converted to biogas for further use.

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**3. Sponge Iron (DRI) Plants:**

**A. General Conditions:**

1. The project proponent shall:
  - a. install 24x7 continuous emission monitoring system at all the stacks to monitor stack emission with respect to parameters prescribed in G.S.R 414 (E) dated 30<sup>th</sup> May 2008; S.O. 3305 (E) dated 7<sup>th</sup> December 2015 for thermal power plant as amended from time to time and connected to CPCB online;
  - b. monitor fugitive emissions in the plant premises;
  - c. carryout Continuous Ambient Air Quality monitoring as per National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 (as amended from time to time) within and outside the plant area at least at four locations covering upwind and downwind directions at an angle of 120° each; and
  - d. submit monitoring report to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.
2. The project proponent shall
  - a) install 24x7 continuous effluents monitoring system at all the discharge points to monitor treated effluents with respect to parameters prescribed in G.S.R 414 (E) dated 30<sup>th</sup> May 2008; S.O. 3305 (E) dated 7<sup>th</sup> December 2015 for thermal power plant as amended from time to time;
  - b) monitor regularly ground water through sufficient numbers of piezometers in the plant and adjacent areas; and
  - c) submit monitoring report to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.
3. The project proponent shall
  - a) provide appropriate Air Pollution Control (APC) system for all the dust generating points including fugitive dust from all vulnerable sources;
  - b) design suitable capacity of bag filters to handle gas/air shall be 150% of the normal flow from process/ from suction hoods to achieve particulate emission to less than 30 mg/Nm<sup>3</sup>;

- c) provide leakage detection and mechanised bag cleaning facilities for better maintenance of bags;
  - d) provide pollution control system in the steel plant as per the CREP Guidelines of CPCB;
  - e) provide sufficient number of mobile or stationery vacuum cleaners to clean plant roads, shop floors, roofs regularly;
  - f) recycle and reuse iron ore fines, coal and coke fines, lime fines and such other fines collected in the pollution control devices and vacuum cleaning devices in the process after briquetting/ agglomeration;
  - g) use leak proof trucks/dumpers carrying coal and other raw materials and cover them with tarpaulin; and
  - h) provide wind shelter fence and chemical spraying on the raw material stock piles.
4. The project proponent shall:
- a) adhere to ‘zero liquid discharge’;
  - b) provide Sewage Treatment Plant for domestic wastewater; and
  - c) provide garland drains and collection pits for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.
5. The project proponent shall
- a) practice rainwater harvesting to maximum possible extent; and
  - b) make efforts to minimise water consumption in the steel plant complex by segregation of used water, practicing cascade use and by recycling treated water.
6. The PP shall:
- a) provide waste heat recovery system on the DRI Klins;
  - b) use dolochar generated for power generation;
  - c) provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly; and
  - d) provide the project proponent for LED lights in their offices and residential areas;
7. Used refractories shall be recycled as far as possible.
8. Sufficient number of colour coded waste collection bins shall be constructed at t shop floors in each shop to systematically segregate and store waste materials generated at the shop floors



(other than Process waste) in designated coloured bins for value addition by promoting reuse of such wastes and for good housekeeping.

9. The PP shall prepare GHG emissions inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration including plantation.
10. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
11. The PP shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms of Factory Act.
12. The PP shall adhere to the corporate environmental policy and system of the reporting of any infringements/ non-compliance of EC conditions at least once in a year to the Board of Directors and the copy of the board resolution shall be submitted to the MoEF&CC as a part of six-monthly report.
13. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the steel plants shall be implemented.
14. A dedicated environmental cell with qualified personnel shall be established. The head of the environment cell shall report directly to the head of the organization.
15. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, 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.
16. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
17. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
18. The waste oil, grease and other hazardous waste shall be disposed of as per the Hazardous & Other waste (Management & Transboundary Movement) Rules, 2016.
19. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dB(A) during day time and 70 dB(A) during night time.
20. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
21. The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report.
22. 100% utilization of fly ash shall be ensured. All the fly ash shall be provided to cement and brick manufacturers for further utilization and Memorandum of Understanding shall be submitted to the Ministry's Regional Office.

23. The project proponent shall:
- a. send a copy of environmental clearance letter to the heads of Local Bodies, Panchayat, Municipal bodies and relevant offices of the Government;
  - b. put on the clearance letter on the web site of the company for access to the public.
  - c. inform the public through advertisement 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 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, Forests and Climate Change (MoEF&CC) at <http://envfor.nic.in>.
  - d. upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same periodically;
  - e. monitor the criteria pollutants level namely; PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company;
  - f. 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&CC, the respective Zonal Office of CPCB and the SPCB;
  - g. submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company;
  - h. 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.

**B. Specific conditions:**

1. An amount of Rs----- proposed towards Enterprise Social Commitment (ESC) shall be utilized as capital expenditure in project mode. The project shall be completed in concurrence with the implementation of the expansion and estimated on the basis of Scheduled Rates.
2. Green belt shall be developed in ----- Ha equal to 33% of the plant area with a native tree species in accordance with CPCB guidelines. The greenbelt shall inter alia cover the entire periphery of the plant.
3. The Capital cost Rs. ----- and annual recurring cost Rs. ----- towards the environmental protection measures shall be earmarked separately. The funds so provided shall not be diverted for any other purpose.
4. Kitchen waste shall be composted or converted to biogas for further use.

**4.0 Induction/ Electric Arc Furnace and Rolling Mills:**

**A. General Conditions:**

1. The project proponent shall:
  - a. install 24x7 continuous emission monitoring system at all the stacks to monitor stack emission with respect to parameters prescribed in G.S.R 414 (E) dated 30<sup>th</sup> May 2008; S.O. 3305 (E) dated 7<sup>th</sup> December 2015 **for thermal power plants** as amended from time to time and connected to CPCB online;
  - b. monitor fugitive emissions in the plant premises;
  - c. carryout Continuous Ambient Air Quality monitoring as per National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 (as amended from time to time) within and outside the plant area at least at four locations covering upwind and downwind directions at an angle of 120° each; and
  - d. submit monitoring report to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.
2. The project proponent shall
  - a) install 24x7 continuous effluents monitoring system at all the discharge points to monitor treated effluents with respect to parameters prescribed in G.S.R 414 (E) dated 30<sup>th</sup> May 2008; S.O. 3305 (E) dated 7<sup>th</sup> December 2015 **for thermal power plants** as amended from time to time;
  - b) monitor regularly ground water through sufficient numbers of piezometers in the plant and adjacent areas; and
  - c) submit monitoring report to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.
3. The project proponent shall
  - a) provide appropriate Air Pollution Control (APC) system for all the dust generating points including fugitive dust from all vulnerable sources;
  - b) design suitable capacity of bag filters to handle gas/air shall be 150% of the normal flow from process/ from suction hoods to achieve particulate emission to less than 30 mg/Nm<sup>3</sup>;
  - c) provide leakage detection and mechanised bag cleaning facilities for better maintenance of bags;
  - d) provide sufficient number of mobile or stationery vacuum cleaners to clean plant roads, shop floors, roofs regularly;

- e) recycle and reuse iron ore fines, coal and coke fines, lime fines and such other fines collected in the pollution control devices and vacuum cleaning devices in the process after briquetting/ agglomeration;
  - f) use leak proof trucks/dumpers carrying coal and other raw materials and cover them with tarpaulin;
  - g) provide covered sheds for raw materials like scrap and sponge iron, lump ore, coke, coal, etc;
  - h) provide primary and secondary fume extraction system at all melting furnaces; and
  - i) design the ventilation system for adequate air changes as per ACGIH document for all tunnels, motor houses, Oil Cellars.
4. The project proponent shall:
- a) adhere to ‘zero liquid discharge’;
  - b) provide Sewage Treatment Plant for domestic wastewater; and
  - c) Provide ETP for removal of all rolling mills.
5. The project proponent shall:
- a) practice rainwater harvesting to maximum possible extent; and
  - b) make efforts to minimise water consumption in the steel plant complex by segregation of used water, practicing cascade use and by recycling treated water.
6. The PP shall:
- a) provide waste heat recovery system (pre-heating of combustion air) at the flue gases of reheating furnaces.
  - b) practice hot charging of slabs and billets/blooms as far as possible;
  - c) ensure installation of regenerative type burners on all reheating furnaces;
  - d) provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly; and
  - e) Provide the project proponent for LED lights in their offices and residential areas.
7. Used refractories shall be recycled as far as possible.
8. Sufficient number of colour coded waste collection bins shall be constructed at shop floors in each shop to systematically segregate and store waste materials generated at the shop floors

(other than Process waste) in designated coloured bins for value addition by promoting reuse of such wastes and for good housekeeping.

9. Oily scum and metallic sludge recovered from rolling mills ETP shall be mixed, dried, and briquetted and reused melting Furnaces.
10. The PP shall prepare GHG emissions inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration including plantation.
11. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
12. The PP shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms of Factory Act.
13. The PP shall adhere to the corporate environmental policy and system of the reporting of any infringements/ non-compliance of EC conditions at least once in a year to the Board of Directors and the copy of the board resolution shall be submitted to the MoEF&CC as a part of six-monthly report.
14. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Induction/ Electric Arc Furnace and Rolling Mills shall be implemented.
15. A dedicated environmental cell with qualified personnel shall be established. The head of the environment cell shall report directly to the head of the organization.
16. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, 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.
17. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
18. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
19. The waste oil, grease and other hazardous waste shall be disposed of as per the Hazardous & Other waste (Management & Transboundary Movement) Rules, 2016.
20. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dB(A) during day time and 70 dB(A) during night time.
21. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
22. The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report.

23. The project proponent shall:

- a. send a copy of environmental clearance letter to the heads of Local Bodies, Panchayat, Municipal bodies and relevant offices of the Government;
- b. put on the clearance letter on the web site of the company for access to the public.
- c. inform the public through advertisement 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 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, Forests and Climate Change (MoEF&CC) at <http://envfor.nic.in>.
- d. upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same periodically;
- e. monitor the criteria pollutants level namely; PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company;
- f. 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&CC, the respective Zonal Office of CPCB and the SPCB;
- g. submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company;
- h. 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.

**B. Specific conditions:**

1. An amount of Rs----- proposed towards Enterprise Social Commitment (ESC) shall be utilized as capital expenditure in project mode. The project shall be completed in concurrence with the implementation of the expansion and estimated on the basis of Scheduled Rates.
2. Green belt shall be developed in ----- Ha equal to 33% of the plant area with a native tree species in accordance with CPCB guidelines. The greenbelt shall inter alia cover the entire periphery of the plant.
3. The Capital cost Rs. ----- and annual recurring cost Rs. ----- towards the environmental protection measures shall be earmarked separately. The funds so provided shall not be diverted for any other purpose.
4. Kitchen waste shall be composted or converted to biogas for further use.

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**5. Pellet Plants:**

**A. General Conditions:**

1. The project proponent shall:
  - a. install 24x7 continuous emission monitoring system at all the stacks to monitor stack emission with respect to parameters prescribed in G.S.R 414 (E) dated 30<sup>th</sup> May 2008; S.O. 3305 (E) dated 7<sup>th</sup> December 2015 **for thermal power plants** as amended from time to time and connected to CPCB online;
  - b. monitor fugitive emissions in the plant premises;
  - c. carryout Continuous Ambient Air Quality monitoring as per National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 (as amended from time to time) within and outside the plant area at least at four locations covering upwind and downwind directions at an angle of 120° each; and
  - d. submit monitoring report to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.
2. The project proponent shall:
  - a) install 24x7 continuous effluents monitoring system at all the discharge points to monitor treated effluents with respect to parameters prescribed in G.S.R 414 (E) dated 30<sup>th</sup> May 2008; S.O. 3305 (E) dated 7<sup>th</sup> December 2015 **for thermal power plants** as amended from time to time; and
  - b) submit monitoring report to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.
3. The project proponent shall
  - a) provide appropriate Air Pollution Control (APC) system for all the dust generating points including fugitive dust from all vulnerable sources;
  - b) design suitable capacity of bag filters to handle gas/air shall be 150% of the normal flow from process/ from suction hoods to achieve particulate emission to less than 30 mg/Nm<sup>3</sup>;
  - c) provide leakage detection and mechanised bag cleaning facilities for better maintenance of bags;
  - d) provide sufficient number of mobile or stationery vacuum cleaners to clean plant roads, shop floors, roofs regularly;

- e) recycle and reuse iron ore fines, coal and coke fines, lime fines and such other fines collected in the pollution control devices and vacuum cleaning devices in the process after briquetting/ agglomeration; and
  - f) use leak proof trucks/dumpers carrying coal and other raw materials and cover them with tarpaulin;
  - g) provide wind shelter fence and chemical spraying on the raw material stock piles.
4. The project proponent shall:
- a) adhere to 'zero liquid discharge';
  - b) provide Sewage Treatment Plant for domestic wastewater; and
  - c) provide garland drains and collection pits for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.
5. The project proponent shall
- a) practice rainwater harvesting to maximum possible extent; and
  - b) make efforts to minimise water consumption in the steel plant complex by segregation of used water, practicing cascade use and by recycling treated water.
6. The PP shall:
- a) provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly; and
  - b) provide LED lights in their offices and residential areas.
7. The PP shall prepare GHG emissions inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration including plantation.
8. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
9. The PP shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms of Factory Act.
10. The PP shall adhere to the corporate environmental policy and system of the reporting of any infringements/ non-compliance of EC conditions at least once in a year to the Board of Directors and the copy of the board resolution shall be submitted to the MoEF&CC as a part of six-monthly report.
11. A dedicated environmental cell with qualified personnel shall be established. The head of the environment cell shall report directly to the head of the organization.



12. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, 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.
13. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
14. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
15. The waste oil, grease and other hazardous waste shall be disposed of as per the Hazardous & Other waste (Management & Transboundary Movement) Rules, 2016.
16. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dB(A) during day time and 70 dB(A) during night time.
17. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
18. The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report.
19. 100% utilization of fly ash shall be ensured. All the fly ash shall be provided to cement and brick manufacturers for further utilization and Memorandum of Understanding shall be submitted to the Ministry's Regional Office.
20. The project proponent shall:
  - a. send a copy of environmental clearance letter to the heads of Local Bodies, Panchayat, Municipal bodies and relevant offices of the Government;
  - b. put on the clearance letter on the web site of the company for access to the public.
  - c. inform the public through advertisement 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 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, Forests and Climate Change (MoEF&CC) at <http://envfor.nic.in>.
  - d. upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same periodically;
  - e. monitor the criteria pollutants level namely; PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company;
  - f. 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&CC, the respective Zonal Office of CPCB and the SPCB;

- g. submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company;
- h. 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.

**B. Specific conditions:**

1. An amount of Rs----- proposed towards Enterprise Social Commitment (ESC) shall be utilized as capital expenditure in project mode. The project shall be completed in concurrence with the implementation of the expansion and estimated on the basis of Scheduled Rates.
2. Green belt shall be developed in ----- Ha equal to 33% of the plant area with a native tree species in accordance with CPCB guidelines. The greenbelt shall inter alia cover the entire periphery of the plant.
3. The Capital cost Rs. ----- and annual recurring cost Rs. ----- towards the environmental protection measures shall be earmarked separately. The funds so provided shall not be diverted for any other purpose.
4. Kitchen waste shall be composted or converted to biogas for further use.

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**6. Integrated Cement Plants:**

**A. General Conditions:**

1. The project proponent shall:
  - a. install 24x7 continuous emission monitoring system at all the stacks to monitor stack emission with respect to parameters prescribed in G.S.R. No. 612 (E) dated 25<sup>th</sup> August, 2014 and subsequent amendment dated 9<sup>th</sup> May, 2016 and 10<sup>th</sup> May, 2016 as amended from time to time; S.O. 3305 (E) dated 7<sup>th</sup> December 2015 **for thermal power plants** as amended from time to time and connected to CPCB online;
  - b. monitor fugitive emissions in the plant premises;
  - c. carryout Continuous Ambient Air Quality monitoring as per National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 (as amended from time to time) within and outside the plant area at least at four locations covering upwind and downwind directions at an angle of 120° each; and
  - d. submit monitoring report to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.
2. The project proponent shall

- a) install 24x7 continuous effluents monitoring system at all the discharge points to monitor treated effluents with respect to parameters prescribed in G.S.R. No. 612 (E) dated 25<sup>th</sup> August, 2014 and subsequent amendment dated 9<sup>th</sup> May, 2016 and 10<sup>th</sup> May, 2016 as amended from time to time; S.O. 3305 (E) dated 7<sup>th</sup> December 2015 for thermal power plants as amended from time to time as amended from time to time; and
  - b) submit monitoring report to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.
3. The project proponent shall
- a) provide appropriate Air Pollution Control (APC) system for all the dust generating points including fugitive dust from all vulnerable sources;
  - b) design suitable capacity of bag filters to handle gas/air shall be 150% of the normal flow from process/ from suction hoods to achieve particulate emission to less than 30 mg/Nm<sup>3</sup>;
  - c) provide leakage detection and mechanised bag cleaning facilities for better maintenance of bags;
  - d) provide pollution control system in the cement plant as per the CREP Guidelines of CPCB;
  - e) provide sufficient number of mobile or stationery vacuum cleaners to clean plant roads, shop floors, roofs regularly;
  - f) recycle and reuse lime fines, coal fines and such other fines collected in the pollution control devices and vacuum cleaning devices in the process after agglomeration;
  - g) use leak proof trucks/dumpers for carrying coal and other raw materials and shall cover them with tarpaulin. Use closed bulkers for carrying fly ash;
  - h) Provide wind shelter fence and chemical spraying on the raw material stock piles;
  - i) provide Low NO<sub>x</sub> burners to control NO<sub>x</sub> emissions. Regular calibration of the instruments must be ensured. If needed, NO<sub>x</sub> will be controlled by using SCR/NSCR technologies; and
  - j) have separate truck parking area and monitor vehicular emissions at regular interval.
4. The project proponent shall:
- a) adhere to 'zero liquid discharge';
  - b) provide Sewage Treatment Plant for domestic wastewater; and
  - c) provide garland drains and collection pits for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.

5. The project proponent shall
  - a) practice rainwater harvesting to maximum possible extent;
  - b) provide water meters at the inlet to all unit processes in the cement plants; and
  - c) make efforts to minimise water consumption in the steel plant complex by segregation of used water, practicing cascade use and by recycling treated water.
6. The PP shall:
  - a) provide Waste heat recovery system for kiln and cooler;
  - b) make efforts to achieve power consumption less than 65 units/tonne for Portland Pozzolona Cement (PPC) and 85 units/tonne for Ordinary Portland Cement (OPC) production and thermal energy consumption of 670 Kcal/Kg of clinker;
  - c) provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;
  - d) provide the project proponent for LED lights in their offices and residential areas;
  - e) maximize utilization of fly ash, slag and sweetener in cement blend as per BIS standards; and
  - f) maximize utilization of alternate fuels and Co-processing to achieve best practice norms.
7. Efforts shall be made to reduce impact of the transport of the raw materials and end products on the surrounding environment including agricultural land by the use of covered conveyor belts/railways as a mode of transport.
8. Used refractories shall be recycled as far as possible.
9. The PP shall prepare GHG emissions inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration including plantation.
10. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
11. The PP shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms of Factory Act.
12. The PP shall adhere to the corporate environmental policy and system of the reporting of any infringements/ non-compliance of EC conditions at least once in a year to the Board of Directors and the copy of the board resolution shall be submitted to the MoEF&CC as a part of six-monthly report.

13. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the cement plants shall be implemented.
14. A dedicated environmental cell with qualified personnel shall be established. The head of the environment cell shall report directly to the head of the organization.
15. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, 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.
16. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
17. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
18. The waste oil, grease and other hazardous shall be disposed of as per the Hazardous & Other waste (Management & Transboundary Movement) Rules, 2016.
19. The storage of NH<sub>3</sub> and other hazardous chemicals at the site shall be as per the provisions of Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 as amended from time to time.
20. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dB(A) during day time and 70 dB(A) during night time.
21. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
22. The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report.
23. Ventilation system shall be designed for adequate air changes as per ACGIH document for all tunnels, motor houses, cement bagging plants.
24. Sufficient number of colour coded waste collection bins shall be constructed at shop floors in each shop to systematically segregate and store waste materials generated at the shop floors (other than Process waste) in designated coloured bins for value addition by promoting reuse of such wastes and for good housekeeping.
25. The project proponent shall:
  - a. send a copy of environmental clearance letter to the heads of Local Bodies, Panchayat, Municipal bodies and relevant offices of the Government;
  - b. put on the clearance letter on the web site of the company for access to the public.
  - c. inform the public through advertisement 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 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, Forests and Climate Change (MoEF&CC) at <http://envfor.nic.in>.

- d. upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same periodically;
- e. monitor the criteria pollutants level namely; PM10, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company;
- f. 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&CC, the respective Zonal Office of CPCB and the SPCB;
- g. submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company;
- h. 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.

**B. Specific conditions:**

1. An amount of Rs----- proposed towards Enterprise Social Commitment (ESC) shall be utilized as capital expenditure in project mode. The project shall be completed in concurrence with the implementation of the expansion and estimated on the basis of Scheduled Rates.
2. Green belt shall be developed in ----- Ha equal to 33% of the plant area with a native tree species in accordance with CPCB guidelines. The greenbelt shall inter alia cover the entire periphery of the plant.
3. The Capital cost Rs. ----- and annual recurring cost Rs. ----- towards the environmental protection measures shall be earmarked separately. The funds so provided shall not be diverted for any other purpose.
4. Kitchen waste shall be composted or converted to biogas for further use.

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**LIST OF PARTICIPANTS OF EAC (I) IN 25<sup>TH</sup> MEETING OF EAC (INDUSTRY-I)**  
**HELD ON 20<sup>TH</sup> NOVEMBER 2017**

S. No	Name and Address	Position	Attendance	Signature
1	Dr. Chhavi Nath Pandey, IFS(Retired)	Chairman	P	
<b>Members</b>				
2.	Dr. B.P. Thapliyal, Director Central Pulp and Paper Research Institute	Member	A	
3.	Director, Central Leather Research Institute	Member	A	
4.	Dr. Siddarth Singh, Representative of Indian Meteorological Department	Member	A	
5.	Representative of Central Ground Water Board	Member	A	
6.	Dr. G. Bhaskar Raju	Member	P	
7.	Prof. Naresh Chandra Pant	Member	A	
8.	Dr. Jagdish Kishwan, IFS(Retired)	Member	P	
9.	Dr. G.V. Subrahmanyam	Member	P	
10.	Prof. Arun Pandey	Member	A	
11.	Shri Santosh Raghunath Gondhalekar	Member	A	
12.	Shri Ashok Upadhyay	Member	P	
13	Mr. R.P. Sharma	Member	P	
14.	Shri Sharath Kumar Pallerla, Scientist 'F' / Director, MoEF&CC	Member Secretary	P	
15.	Shri Rajasekhar Ratti, Scientist 'C', MoEF&CC	Dy. Director	P	

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