JINDAL STEEL & POWER

JSPL/ EMD/ EC/Cement/ A-S/ 2020

25.11.2020

To,

Ministry of Environment, Forests & Climate Change
Regional Office (WCZ), Ground Floor
East Wing, New Secretariat Building,
Civil Line,
Nagpur-440001

Sub: Compliance of conditions stipulated in Environmental Clearance

Dear Sir,

Please find enclosed herewith six monthly (April 2020 to September 2020) compliance status of conditions stipulated in Environment Clearance for Cement Plant vide letter No. J-11011/ 79/ 2007-IA II (I) dated 16.04.2009 and its amendment dated 15.03.2012. We are also enclosing monitoring results for the said period.

We hope you will find it in order.

Thanking you

Yours faithfully,
For Jindal Steel & Power Limited

DP Singh
HOD – Environment Management

CC: 1. Central Pollution Control Board, Bhopal.
2. Chhattisgarh Environment Conservation Board, Raipur
3. Regional Office, CECB Raigarh (C.G.)

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Six Monthly Compliance of EC Condition with Monitoring Report

Cement Plant

(April 2020 to September 2020)

COMPLIANCE STATUS OF ENVIRONMENT CLEARANCE

EC letter no. J-11011/79/2007-IA II (I) Dated 16.04.2009

A. Specific Conditions :

SN	Condition	Compliance
1.	Continuous stack monitoring facilities to monitor gaseous emissions from all the stacks shall be provided. Limit of SPM shall be controlled within 50 mg/Nm3 by installing adequate air pollution control system. The State Board may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location. At no time, the emission level shall go beyond the prescribed standards. On-line continuous monitoring system shall be installed in stacks to monitor SPM and interlocking facilities shall be provided so that process can be automatically stopped in case emission level exceeds the limit.	Online Continuous stack emission monitoring facilities (opacity meters) are provided and emission is controlled within the prescribed norm. Stack emission data is directly linked to the server at Head office of CECB. Monitoring results are submitted to the Board on monthly basis. Please refer ***Annexure 1.***
2.	Electrostatic precipitator (ESP) to clinker cooler, bag house clinker cooler and bag house to crusher and grinding unit and raw mill/kiln and bag filters to cement mill and coal mill, material transfer points, feed hoppers of raw mill, reject hoppers, hoppers of cement mills, raw meal silos, clinker silos, cement silos, fly ash silos, slag dryer, cement packing unit, limestone and additive crushers, kiln feed bins, fly ash, gypsum, slag and clinker hoppers etc. shall be provided. Water sprinkles / dry fog dust suppressions system shall be provided at crushers, truck unloading points, bunkers, stockpile etc to control fugitive emissions.	Adequate and efficient pollution control equipment installed in the plant to control the emission of air pollutants. Please refer ***Annexure – 2*** Water sprinkler/dry fog dust suppression system has been provided to control fugitive emission at required locations.
3.	Data on ambient air quality, stack emissions and fugitive emissions shall be uploaded on the Company's website and also regularly submitted on-line to the Ministry's Regional Office at Bhopal, Chhattisgarh Environment Conservation Board (CECB) and Central Pollution Control Board (CPCB) as well as hard copy once in six months. Data on SPM, SO2 and NOx shall also be displayed prominently outside the premises at the appropriate place for the information of general public.	Agreed. Ambient air quality is regularly monitored at four locations around the plant. Results are submitted to CPCB & CECB at prescribed interval. Ambient air quality monitoring results are also displayed at main gate of the factory. Monitoring report attached as ***Annexure – 3.***
4.	Secondary fugitive emissions shall be controlled and shall be within the prescribed limits and regularly monitored. Guidelines / Code of Practice issued by the CPCB in this regard shall be	The secondary fugitive emissions are controlled through dust extraction (bag filters) and suppression methods. The dust levels are maintained within norms.

	followed.	
5.	The company shall install adequate dust collection and extraction system to control fugitive dust emissions at various transfer points, raw mill handling (unloading, conveying, transporting, stacking), vehicular movement, bagging and packing areas etc. All the raw material stock piles shall be covered. A closed clinker stockpile system shall be provided. All conveyers shall be covered with GI sheets. Covered sheds for storage of raw materials and fully covered conveyers for transportation of materials shall be provided besides coal, cement, fly ash and clinker shall be stored in silos. Pneumatic system shall be used for fly ash handling.	For control of fugitive emissions, ventilation systems are provided in conjunction with hoods and enclosures covering transfer points and conveyors. All raw materials are transported in closed/ with moisturized conditions. Pucca road is constructed to prevent fugitive dust during transportation. All conveyors are covered with GI sheet. Raw materials are stored in silos.
6.	Ambient air quality parameters shall conform to the norms prescribed by the Central Pollution Control Board. Asphalting/concreting of roads and water spray all around the stockyard and loading / unloading areas in the cement plant shall be carried out to control fugitive emissions. Regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of SPM and RPM such as haul road, loading and unloading points, transfer points and other vulnerable areas.	Adequate steps are taken for effective fugitive emission control from different area. All transfer points are covered to avoid fugitive emission. Truck mounted water spraying tankers are provided to spray water on haul roads and other dust generating points.
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. All the raw materials including fly ash shall be transported in the closed containers only and shall not be overloaded. Vehicular emissions shall be regularly monitored.	All raw materials are transported either through bulkers/ covered trucks/ in moisturized condition. Overloading is avoided. There is no significant impact to surrounding areas.
8.	Total water requirement from the reservoir of existing steel plant of M/s JSPL at Raigarh drawing water from Mahanadi and Kelo River shall not exceed 58 m3/hr. 'permission' for the drawl of 2,000 Kl/hr. from Mahanadi River and 1,622 kl/hr (Total 3,622 kl/hr) by M/s Jindal Steel & Power Ltd. (JSPL) is obtained from Water Resource Department, Govt. of C.G. & M.P. for the steel plant. No ground water shall be used. The process effluent shall be treated in effluent treatment plant (ETP) and treated wastewater shall be recycled and reused for dust suppression and green belt development etc. No process wastewater shall be discharged outside the factory premises and 'zero' discharge shall be adopted. Domestic effluent shall be treated in the	The water consumption does not exceed the permitted quantity. Domestic wastewater is treated in sewage treatment plants (STP) and the treated water is reused for irrigation and gardening purposes. No waste water is allowed to go outside factory premises.

	sewage treatment plant (STP) and used for green belt development.	
9.	'Permission' for the drawl of 58 m3/hr water shall be obtained from concerned department in case of source and quantity of water is changed and a copy of the permission letter shall be submitted to the Ministry's Regional Office at Bhopal.	Complied.
10.	All the fly ash shall be transported pneumatically to cement plant and efforts shall be made to use fly ash and slag maximum in making Pozollona Portland and Slag Cement (PPC & PSC). Efforts shall also be made to use low grade lime and solid waste in the cement manufacturing.	PSC is made from granulated slag of Blast furnace and PCC is made from fly ash. The raw materials are transported in covered/ moisturized condition.
11.	All the bag filter dust, raw meal dust, coal dust, clinker dust and cement dust from pollution control device shall be recycled and reused in the process and used for cement manufacturing. ETP sludge shall be used as land fill / soil conditioning agent. Spent oil and lubricants shall be sold to authorized recyclers / re-processors only.	All the solid wastes are reused back in the process. Spent oil/ lubricant oil are sold to registered recycler/ re-processor only.
12.	An effort shall be made to use of high calorific hazardous waste in the cement kiln and necessary provision shall be made accordingly.	The cement plant presently is only a grinding mill. High calorific hazardous waste would be used in the mill as fuel, when the plant shall be upgraded into a full-fledged integrated cement plant.
13.	As proposed, green belt shall be developed in at least 33 % area in and around the cement plant as per the CPCB guidelines to mitigate the effects of air emissions in consultation with local DFO.	Green belt of 33 % area has been provided. The width of the green belt area varies between 10 to 50 m wide and the same is verified by Government accredited agency M/s SINDRA, Raipur.
14.	Recommendation and permission of the State Forest Department regarding impact of proposed plant on surrounding reserve forests viz. Urdana and Rabo reserve forests shall be obtained and implemented. Further, Conservation Plan for the conservation of wild fauna in consultation with the State Forest Department shall be prepared and implemented.	The reserve forests are beyond the impact zone of the plant. No adverse influence would be there due to the cement plant.
15.	All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Cement plants shall be implemented.	Implemented.
16.	As proposed, action plan for the Rehabilitation and Resettlement for rehabilitating project affected population as approved by the State Govt. shall be implemented.	Agreed and complied
17.	The company shall provide housing for construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe	Project already commissioned.

	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.	

B GENERAL CONDITIONS:

1	The project authorities shall strictly adhere to the stipulations made by the Chhattisgarh Environment Conservation Board (CECB) and the state Government.	All the stipulations made by statutory authorities are complied with and status report is submitted to CECB regularly
2	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests.	Agreed
3	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 dust suppression system consisting of water sprinkling and bag filters etc. shall be installed. Fugitive emissions shall be regularly monitored and records maintained.	Appropriate dust control systems are installed at all required locations.
4	At least four ambient air quality-monitoring stations shall 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. Date on ambient air quality and stack emission should be regularly submitted to this Ministry including its Regional Office at Bhopal and the CECB/CPCB once in six months.	Four permanent ambient air quality monitoring stations are installed as per direction by CECB and monitoring is done at frequency prescribed by the board. Results are submitted to MoEFCC, CPCB, and SPCB at regular interval.
5	Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended form time to time. The treated wastewater shall be utilized for plantation purpose.	Industrial waste water is recycled back for reuse in process/cooling. Domestic waste water is treated in sewage treatment plant. The treated water is reused for watering of green areas and gardening purposes.
6	The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dB A (daytime) and 70 dB A (nighttime).	Appropriate noise control measures have been taken. In noisy areas, earplugs and earmuffs are provided to workers. Ambient noise level is within the limit prescribed by the statutory authorities.
7	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Health surveillance of the workers and employees is done time to time.
8	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.	Rain water harvesting practices are done in our Cement plant.
9	The project proponent shall also comply with all the environment protection measures and safeguards recommended in the EIA / EMP report. Further, the company must undertake socio-economic development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.	Environmental protection measures implemented as given in EIA/EMP. We have already undertaken socio-economic development activities in surrounding areas.

10	As proposed, Rs. 30.00 Crores and Rs. 30.00 Crores shall be earmarked towards capital cost and recurring cost/annum for environment pollution control measures to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. An implementation schedule for implementing all the conditions stipulated herein shall be submitted to the Regional Office of the Ministry at Bhopal. The funds so provided shall not be diverted for any other purpose.	Adequate funds are allotted every year for environment Management i.e. for environmental monitoring, green belt development & housekeeping.
11	The Regional Office of this Ministry at Bhopal/CPCB/CECB/ will monitor the stipulated conditions. A six monthly compliance report and the monitored date along with statistical interpretation shall be submitted to them regularly.	Six monthly compliance report and monitoring data are being submitted to MoEFCC, CECB & CPCB.
12	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.	Already done.
13	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.	Already communicated to statutory body

EC letter no. J-11011/79/2007-IA II (I) Dated 15.03.2012

SN	Condition	Compliance
01	The National ambient air quality standards issued by the ministry vide GSR No. 826 (E) dated 16th November, 2009 shall be followed.	It is being implemented.
02	The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF , the respective zonal office of CPCB and the SPCB . The regional office of this ministry at Bhopal /CPCB/SPCB shall monitor the stipulated conditions.	Regularly submitted.
03	The environment statement of each financial year ending 31st March in Form – V as is mandated to be submitted by the project proponent to the concerned state pollution control board as prescribed under the Environment (protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the respective Regional Offices of the MoEF by e-mail	Environment Statement is being submitted every year before 30th September to the board.
04	The company shall submit within three months their policy towards Corporate Environment Responsibility which should inter-alia addresses (i) Standard operating process /procedure to bring in to focus any infringement /deviation /violation of environment and forest norm /conditions , (ii) Hierarchical system or administrative order of the company to deal with environmental issues and ensuring compliance to the environmental clearance conditions and (iii) System of reporting of non compliance /violation environmental norms to the board of Directors of the company and /or stakeholders or shareholders .	Already submitted vide letter No. JSPL/EMD/2012/Cement EC Comp -1 dated 30.05.2012

Annexure – 1

Particulate Matter - Cement Plant (April 2020 – September 2020)

Unit	Stack attached with	PCE	Concentration of PM (mg/Nm³)					
			APR 2020	MAY 2020	JUNE 2020	JULY 2020	AUG 2020	SEPT 2020
Cement Plant	VRM	Bag Filter	27	29	26	28	29	26

Annexure – 2

DETAIL OF AIR POLLUTION CONTROL EQUIPMENT

Point Source emission control

Pollution control equipment	Bag filter
Gas volume	375000 m3/hr
Inlet gas temperature	90 - 100 degree C
Inlet dust load	400 gm/Nm3
Outlet emission	50 mg/Nm3 (Max)
Air to cloth ratio	1.07 m3/min/m2
Bag size (dia x length)	149 x 4500 mm
No. of bags	2772

Non-point source emission Control

Particulars	**Unit**									
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Location	Transfer point before slag mill area	Mill feed area	Storage silo	Bucket elevator for packing plant	Packing plant	Packing plant	Coal bin	Packing plant	Rotopacker-2	Rotopacker-2
Quantity	1	1	2	1	1	1	1	1	1	1
Type	Pulsejet	Pulsejet	Pulsejet	Pulsejet	Pulsejet	Pulsejet	Pulsejet	Pulsejet	Pulsejet	Pulsejet
Application	Conveyor venting and transfer tower	Conveyor, bucket elevator venting & transfer points	Air slide and silo venting	Air slide and bucket elevator venting	Air slide and packer venting	Air slide and packer venting	Coal bin venting	Air slide and packer venting	Packer & bucket elevator venting	Air slide venting
Material	Slag+Clinker+Gypsum	Slag+Clinker+Gypsum	Cement	Cement	Cement	Cement	Cement	Cement	Cement	Cement
Gas volume (m3/hr)	8000	30000	12000	8000	8000	8000	2000	30000	25000	5750
Inlet dust load (gm/m3)	15	15	30	30	30	30	30	30	30	30
Outlet dust emission (mg/Nm3)	50 (max)	50 (max)	50 (max)	50 (max)	50 (max)	50 (max)	50 (max)	50 (max)	50 (max)	50 (max)

Annexure – 3

AMBIENT AIR QUALITY MONITORING REPORT – CEMENT PLANT (April 2020 – September 2020)

Month		Location																			
		Plant East Side					Plant West Side					Plant North Side					Plant South Side				
		PM10	PM2.5	SO2	NO2	CO	PM10	PM2.5	SO2	NO2	CO	PM10	PM2.5	SO2	NO2	CO	PM10	PM2.5	SO2	NO2	CO
APR 20	Min	32.0	10.8	10.0	11.0	263.0	31.0	8.2	12.0	11.0	235.0	36.0	9.8	10.0	12.0	286.0	32.0	9.8	10.0	10.0	215.0
	Max	51.0	17.2	23.0	21.0	563.0	55.0	19.2	18.0	24.0	663.0	55.0	16.4	20.0	19.0	425.0	47.0	14.6	18.0	18.0	526.0
	Avg	41.6	13.6	15.1	14.6	397.3	42.9	12.9	14.7	17.8	401.9	43.6	13.1	14.6	15.1	356.3	40.4	12.3	14.2	14.2	349.9
MAY 20	Min	35.0	11.9	12.0	11.0	326.0	35.0	11.6	12.0	16.0	269.0	35.0	10.8	11.0	11.0	358.0	35.0	10.7	10.0	12.0	256.0
	Max	63.0	26.4	23.0	23.0	652.0	58.0	20.1	30.0	31.0	537.0	59.0	19.3	23.0	25.0	474.0	59.0	23.5	21.0	23.0	524.0
	Avg	47.4	16.0	17.3	17.6	514.9	43.7	14.5	16.1	20.3	409.9	47.9	14.8	15.7	16.0	415.3	47.3	16.2	15.4	16.2	358.4
JUNE 20	Min	30.0	11.2	13.0	12.0	215.0	28.0	10.2	10.0	14.0	312.0	33.0	10.4	13.0	13.0	324.0	36.0	10.5	12.0	13.0	229.0
	Max	53.0	19.1	26.0	24.0	552.0	60.0	21.5	23.0	26.0	625.0	53.0	18.1	23.0	24.0	595.0	51.0	16.8	22.0	23.0	521.0
	Avg	44.2	15.1	18.3	17.8	419.3	39.7	13.4	15.2	17.6	451.7	46.1	14.3	17.8	17.8	474.4	41.4	12.6	15.1	16.1	359.6
JULY 20	Min	30.0	9.8	12.0	12.0	325.0	29.0	8.2	11.0	12.0	226.0	31.0	9.8	12.0	12.0	354.0	29.0	8.6	13.0	11.0	289.0
	Max	50.0	14.2	20.0	22.0	652.0	55.0	15.2	22.0	26.0	596.0	51.0	15.3	20.0	21.0	565.0	52.0	15.3	20.0	21.0	447.0
	Avg	41.6	12.1	14.8	16.0	441.6	37.2	10.4	16.5	18.5	390.5	40.5	12.0	15.3	16.8	493.5	41.4	11.4	15.6	15.5	372.8
AUG 20	Min	32.0	8.6	10.0	12.0	312.0	30.0	8.1	12.0	13.0	321.0	38.0	10.3	10.0	13.0	362.0	32.0	9.8	11.0	12.0	286.0
	Max	44.0	13.4	18.0	22.0	465.0	59.0	15.3	21.0	18.0	526.0	52.0	14.8	21.0	24.0	521.0	51.0	14.1	18.0	17.0	652.0
	Avg	36.9	11.1	13.5	15.1	378.0	36.8	10.3	15.5	15.8	396.8	45.5	12.4	15.2	15.5	442.1	41.2	11.8	14.2	14.9	411.3
SEPT 20	Min	28.0	8.9	13.0	12.0	254.0	29.0	7.6	11.0	12.0	225.0	27.0	10.3	12.0	12.0	256.0	22.0	10.4	10.0	10.0	152.0
	Max	52.0	14.9	21.0	23.0	541.0	55.0	15.2	23.0	26.0	496.0	51.0	15.4	20.0	24.0	365.0	52.0	19.2	21.0	23.0	632.0
	Avg	38.5	12.0	16.5	17.4	423.6	40.4	11.3	16.0	19.1	392.4	39.1	12.6	15.1	16.3	331.1	38.3	13.7	15.4	16.7	370.4

Limit: PM10 - 100 µg/m3, PM2.5 - 60 µg/m3, SO2 - 80 µg/m3, NO2 - 80 µg/m3, CO - 2000 µg/m3

Annexure – 3A

Ambient Noise Measurement Report – Cement Plant (April 2020 – September 2020)

Sr. No.	Location	APR 20		MAY 20		JUNE 20		JULY 20		AUG 20		SEPT 20	
		Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
1	Plant East Side	60 - 69	51 - 57	63 - 69	51 - 58	64 - 69	52 - 60	62 - 68	50 - 58	64 - 69	53 - 59	65 - 68	52 - 58
2	Plant West Side	61 - 68	52 - 56	60 - 67	53 - 59	61 - 66	51 - 57	60 - 65	52 - 56	63 - 70	53 - 57	61 - 69	52 - 56
3	Plant North Side	63 - 70	50 - 57	61 - 68	52 - 57	62 - 67	52 - 59	63 - 67	51 - 58	65 - 69	52 - 56	64 - 70	51 - 55
4	Plant South Side	58 - 67	51 - 55	59 - 67	53 - 59	58 - 68	52 - 54	57 - 63	53 - 55	62 - 68	50 - 57	63 - 67	51 - 56

Limit : Day/Night – 75/70 dB