

Name of the Project: Jaypee Rewa Plant, Unit of M/s Jaiprakash Associates Limited for expansion Of cement production from 2.5 MTPA to 3.5 MTPA at Jaypee Nagar, District Rewa, Madhya Pradesh

Project Code:

Clearance Letter no. : MoEF Vide Letter no. J-11011/79/2003-IA-II (I) dated April 21, 2004

Period of Compliance Report: April 2015 – September 2015

A. Specific Conditions

S. No.	Conditions	Status																																											
1	<p>The gaseous & particulate emissions from various processes units shall conform to the Standards prescribed by the State Pollution Control Board. The company shall make efforts to restrict the particulate emissions to as low as possible and at no time the particulate emission from the stacks shall exceed 100 mg/Nm³. The company shall also take appropriate additional measures to improve the design and operating practices of the Pollution Control Equipment to achieve a load based norm of 227 g/Tonne of feed. Trippings in kiln ESP shall be minimized. Interlocking facility shall be provided in the pollution control equipment so that in the event of the pollution control equipment not working, the respective unit(s) will be shut down automatically.</p>	<p>Particulate matter emissions from various process units conform to the standard prescribed by the MPPCB. Monitoring data as under for the period April – September 2015.</p> <table border="1" data-bbox="852 826 1493 1290"> <thead> <tr> <th rowspan="2">Location</th> <th colspan="3">Dust Conc. (mg/Nm³)</th> </tr> <tr> <th>Minimum</th> <th>Maximum</th> <th>Average</th> </tr> </thead> <tbody> <tr> <td>Limestone Crusher-2 Bag Filter</td> <td>23.6</td> <td>38.4</td> <td>33.4</td> </tr> <tr> <td>Raw Mill 1+ Kiln 1 (U I) ESP</td> <td>66.5</td> <td>79.9</td> <td>71.7</td> </tr> <tr> <td>Raw Mill 2+ Kiln 2 (U-II) ESP</td> <td>68.1</td> <td>74.4</td> <td>71.2</td> </tr> <tr> <td>Cooler 1 (U-I) ESP</td> <td>58.1</td> <td>71.7</td> <td>65.3</td> </tr> <tr> <td>Cooler 2 (U-II) ESP</td> <td>54.5</td> <td>76.6</td> <td>63.7</td> </tr> <tr> <td>Coal Mill 2 (U-II) FSP</td> <td>51.9</td> <td>65.6</td> <td>58.1</td> </tr> <tr> <td>Cement Mill No.-1 (Bag House)</td> <td>23.9</td> <td>37.6</td> <td>32.2</td> </tr> <tr> <td>Cement Mill No.-2 (Bag House)</td> <td>22.2</td> <td>37.6</td> <td>26.7</td> </tr> <tr> <td>Cement Mill No.-4 (Bag House)</td> <td>22.0</td> <td>35.8</td> <td>27.0</td> </tr> </tbody> </table> <p>Tripping in the kiln ESP has minimized by installation of efficient Duoflox Burner and interlocking facility has been provided. Average Load based emission level for the Period April – September: 123.30 gm/tonne of feed [Raw mill Main Stack (Unit - I)] and 116.34 gm/tonne of feed [Raw Mill Main Stack (Unit - II)].</p>	Location	Dust Conc. (mg/Nm ³)			Minimum	Maximum	Average	Limestone Crusher-2 Bag Filter	23.6	38.4	33.4	Raw Mill 1+ Kiln 1 (U I) ESP	66.5	79.9	71.7	Raw Mill 2+ Kiln 2 (U-II) ESP	68.1	74.4	71.2	Cooler 1 (U-I) ESP	58.1	71.7	65.3	Cooler 2 (U-II) ESP	54.5	76.6	63.7	Coal Mill 2 (U-II) FSP	51.9	65.6	58.1	Cement Mill No.-1 (Bag House)	23.9	37.6	32.2	Cement Mill No.-2 (Bag House)	22.2	37.6	26.7	Cement Mill No.-4 (Bag House)	22.0	35.8	27.0
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2	<p>Ambient air quality including ambient noise levels shall not exceed the standards stipulated under EPA / by state authorities. Monitoring of ambient air quality and stack emissions shall be carried out regularly in consultation with SPCB and report submitted to the Board quarterly & to the Ministry's Regional Office half yearly. Continuous stack monitoring system shall be installed.</p>	<p>Regular monitoring of Ambient Air Quality & Stack emission is carried out and report submitted to SPCB on monthly basis. The last report is submitted vide letter no. JAL/EC/MoEF/2015 – 16 dated May 23, 2015. Ambient Air Quality, including Ambient Noise level is within the standards prescribed under the EPA State Authorities. Six monthly average monitoring report given below ;</p> <table border="1" data-bbox="845 1863 1506 2114"> <thead> <tr> <th rowspan="2">Parameter</th> <th colspan="4">Location</th> </tr> <tr> <th>Near Washing Ramp</th> <th>Near Narmada Gate</th> <th>Near Estate Office</th> <th>Near Bhagirathi Gate</th> </tr> </thead> <tbody> <tr> <td>PM_{2.5} (µg/m³)</td> <td>23-34</td> <td>22-37</td> <td>19-33</td> <td>20-37</td> </tr> <tr> <td>PM₁₀ (µg/m³)</td> <td>44-48</td> <td>45-52</td> <td>35-49</td> <td>44-50</td> </tr> </tbody> </table>	Parameter	Location				Near Washing Ramp	Near Narmada Gate	Near Estate Office	Near Bhagirathi Gate	PM _{2.5} (µg/m ³)	23-34	22-37	19-33	20-37	PM ₁₀ (µg/m ³)	44-48	45-52	35-49	44-50																								
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3	<p>The company shall install adequate dust collection & extraction system to control the fugitive dust emissions at various transfer points. The dust collected from the pollution control equipment shall be recycled back into the process. Close circuit grinding shall be provided in all the grinding sections of the plant. Storage of raw materials shall be in closed roof sheds. Water sprinkling arrangement shall be made in the raw material stockyard and cement bag loading areas.</p>	<p>Dust collection and extraction system (80 nos. Bag filters) to control fugitive dust emissions have already been provided at all fugitive dust and transfer points. Dust collected in APCDs is recycled back into the process. Close circuit grinding is provided in all grinding mills. All raw materials are being stored in covered sheds / stock yards. Water sprinkling systems have also been provided to major dust generating area to suppress the dust.</p>																																																																							
4	<p>As per Charter on Corporate responsibility for Environmental protection in respect of Cement industries, the company shall reduce CO₂ emission to 0.75 Tonne/Tonne of cement production. Action plan in this regard shall be submitted to the Ministry.</p>	<p>CO₂ emission has been reduced and is well below 0.75 tonne / tonne of cement production. The following activities have been initiated for reduction of CO₂ emission</p> <p><u>Reduction in thermal energy consumption</u></p> <ul style="list-style-type: none"> ➤ Installation of low NO_x Duoflex burners. ➤ Installation of highly energy efficient 6 stage Preheater at Jaypee Rewa Plant (Unit-I) ➤ Changing of pneumatic kiln-feed system by elevator (Unit-I), ➤ Changing static separator of coal mill by dynamic separator for better control on coal fineness and thus, ensuring proper 																																																																							

		<p>burning of coal.</p> <ul style="list-style-type: none"> ➤ Replacement of Folax cooler by more energy efficient INK Plenum cooler ➤ Installation of new higher size cyclone in Calciner string PH top stage 1st cyclone at JRP & Increase in height of calciner for better combustion of fuel (Unit-II). <p>By adopting above measures the specific thermal consumption of 690 Kcal/Kg clinker for Jaypee Rewa Plant (Unit-I), 684 Kcal/Kg clinker for Jaypee Rewa Plant (Unit – II).</p> <p><u>Measures taken for reduction in Electrical energy consumption</u></p> <ul style="list-style-type: none"> ➤ Modification of existing vertical Raw Grinding Mill in Unit-I ➤ Modification of coal mill classifier in Unit-I & II <p>The above measures have resulted in reduction of Specific. Electrical Energy Consumption (wt. Average of all the two units) by 5 KWh/t Cement.</p> <p><u>Production of Blended Cement</u></p> <p>At present fly ash blending up to a level of 30% has been carried out thereby CO₂ emission per tonne of cement production has been reduced.</p> <p><u>Use of waste heat for raw material drying</u></p> <ul style="list-style-type: none"> ➤ Waste heat from kiln pre-heater gases is used for drying raw materials in vertical raw mill and vertical coal mill. ➤ Waste heat from clinker cooler (Unit-2) gases is used for drying wet flyash. <p><u>Utilization of Polythene waste in co-processing in kiln as fuel.</u> Polythene waste is co- incinerated as fuel in cement kiln in JRP Unit - II. 408.18 MT of polythene waste has been incinerated till September 2015.</p>
5	Green belt of adequate width and density shall be provided to mitigate the effects of fugitive emission all around the plant. A minimum of 25% of the area shall be developed as green belt with local species in consultation with the DFO, and as per CPCB's guidelines.	Green belt was developed all around the plant & colony. Tree plantation work is continuous & till date it covers more than 33% under green belt. Plantation details with survival percentage and area covered as under ; Total Area (Ha.): 185.572 Total Plantation : 230155 Survival Rate : 85% % of Area Covered : 62.01
6	No discharge of treated effluent from utilities and domestic effluent shall be done outside the premises and all the treated effluent shall utilized for green belt development and other plant related activities.	'Zero Discharge status is maintained' as there is no discharge of waste water outside the plant premises. STP with tertiary treatment system equipped with ozonator was installed and in operation. Treated water is used for green belt.
7	Occupational health surveillance of the workers shall be done on the regular basis and records shall be maintained as per factory acts.	Occupational health check up of workers is carried out on regular basis and records are being maintained as per factory Acts. The details of occupational health surveillance program conducted during last six months as under.

		OCCUPATIONAL HEALTH RECORD							
		MEDICAL EXAMINATION REPORT APRIL - SEPTEMBER - 2015							
		Particulars	Apr	May	Jun	Jul	Aug	Sep	Total
		PFT	118	80	101	143	91	105	638
		AUDIOMETRY	100	74	92	125	89	94	574
		EYE TEST	32	40	31	25	38	21	187
		MSD	43	45	35	83	42	55	303
		DERMATITIS	49	28	37	68	26	55	263
		Total	342	267	296	444	286	330	1965
8	All the recommendations of the charter on Corporate responsibilities for Environmental protection (CREP) for the cement sector shall be strictly implemented.	The recommendation / Action points of the Charter on corporate responsibility for Environmental Protection (CREP) for the cement sector have been implemented.							
9	The company shall undertake the rainwater harvesting measures to harvest rainwater for their own utilization & for recharging the ground water.	Rainwater harvesting is carried out by channelization of 6.5 Km. long garland drain & finally collected in four old mines pit reservoirs. The water collected in the mines reservoirs are being used in the cement plant & in CPP. The rainfall recorded for the period April – September 2015 is 541.65 mm. Total water stored in mines reservoir is 15.72 Lac cubic meters up to September 2015.							
10	The company shall obtain necessary permission for drawl of ground water for township & domestic use in the plant from the concern state agency.	No permission is required , as the unit does not fall in critical area as per ground water resource guidelines and vide letter no 21-4(5) NCR/CGWA/05 dated 22.07.2005 of CGWA.							
11	The company shall setup a conventional type of permanent meteorological station within their complex, as per the suggestion of India Meteorological Department	Online meteorological station is installed within the complex and meteorological data are getting transmitted to CPCB website.							

B. General Conditions

S No.	Conditions	Status
1	The project authority shall strictly adhere to the stipulation made by the Madhya Pradesh Pollution Control Board & the State Govt.	Strictly adhering to the stipulation made by the Madhya Pradesh Pollution Control Board & the State Govt.
2	No further expansion or modification in the plant shall be carried out without prior approval of the Ministry of Environment & Forest.	Noted and agreed
3	At least four ambient air quality monitoring stations shall be establish in the downward direction as well as where maximum ground level concentration of SPM, SO ₂ & NO _x are anticipated in consultation with the State Pollution Control Board. Data on ambient air quality & stack emissions shall be regularly submitted to this Ministry including its Regional Office at Bhopal & the State Pollution Control Board/Central pollution control board once in six months.	Four Ambient Air Quality stations were already established, Ambient Air Quality monitoring is done on regular basis and data is being submitted to MoEF , CPCB & State Pollution control Board on monthly basis. Last Six monthly reports was submitted to MOEF regional office & CPCB Regional office, Bhopal vide our letter no JAL/EC/MoEF/2015 – 16 dated May 23, 2015.
4	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	Noise level is being monitored around the plant and the measured values are well within the prescribed limit.

	acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under EPA Rules, 1989 viz. 75 dB (A) (daytime) and 70 dB (A) (nighttime)	All the air blower / compressor fans are equipped with silencer to control noise level. Low noise generating compressor / blower are procured.
5	Proper housekeeping & adequate occupational health surveillance programme shall be done on a regular basis and record maintained. The programme shall include lung function and sputum analysis tests once in six months.	Proper housekeeping is maintained. Mechanical road sweeping machines have been deployed for cleaning of internal roads. The occupational health check up of all employees is being done.
6	The company shall comply with all the environmental protection measures and safeguards recommended in the EIA / EMP report.	Complying with the Environmental Protection measures and safeguards recommended in the EIA / EMP report.
7	A separate environmental management cell with full-fledged laboratory facilities to carry out various management and monitoring functions should be set up under the control of Senior Executive.	Environmental Management Cell, with full fledged laboratory was setup and working. Environment cell was strengthen by appointing senior executive having experience of more than 20 years.
8	The project authorities shall provide adequate funds both recurring & non-recurring to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government alongwith the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purpose.	Funds for recurring & non- recurring as per EIA/EMP report have been earmarked for environment protection measures. The money spent for Major pollution control devices and Environment protection measures including recurring expenditures are Rs 153.37 /- lacs.
9	The Regional Office of this Ministry at Bhopal / Central Pollution Control Board/State Pollution Control Board will monitor the stipulated conditions. A six monthly compliance report and the monitored data alongwith statistical interpretation shall be submitted to them regularly.	Regularly submitting six monthly compliance report and monitored data along with statistical interpretation to the Ministry / CPCB / MPPCB. The latest report was submitted vide our letter no JAL/EC/MoEF/2015 – 16 dated May 23, 2015.
10	The company 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 State Pollution Control Board / Committee and may also be seen at website of the Ministry of Environment & Forests at http://envfor.nic.in . This shall be advertise within seven days from the state of issue of 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.	Advertised in two local newspapers i.e. The Dainik Bhasker and The Dainik Jagaran dtd. 27.04.2004 regarding the grant of Environmental Clearance by the MoEF Government of India New Delhi.
11	The 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.	Noted. The Plant was under operation since September 2005
12	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Noted and Agreed
13	The Ministry reserve the right to stipulate additional conditions, if found necessary. The company in a time bound manner will implement these conditions.	Noted and Agreed