

Name of Project: Jaypee Bela Plant of M/s Jaypee Cement Limited at Jaypeepuram, Rewa

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

Period of Compliance Report: April, 2015 – September, 2015

A. Specific Conditions

No.	Conditions	Status of Compliance																															
1	<p>The gaseous & particulate emissions from various process units shall conform to the standard prescribed by the State Pollution Control Board. The company shall make efforts to restrict the particulate emissions to as low as possible & at no time the particulate emission from the stacks should exceed 100 mg/Nm³. The company shall also take appropriate additional measures to improve the design & operating practices of pollution control equipment to achieve a load based norm of 227 gms/T of feed. Tripping in kiln ESP shall be minimized. Interlocking facility shall be provided in the pollution control equipment so that in the event of the pollution equipment not working, the respective unit (s) shall be shut down automatically.</p>	<p>Gaseous and particulate emissions from various process units conform to the standard prescribed by the MPPCB. Monitoring data is as under: (April,15 to Sep.15)</p> <table border="1" data-bbox="1070 512 1845 911"> <thead> <tr> <th data-bbox="1070 512 1442 655" rowspan="2">Unit Stack Attached With PCE (Pollution Controlling Equipment)</th> <th colspan="3" data-bbox="1442 512 1845 580">Observed SPM conc. (mg/Nm³)</th> </tr> <tr> <th data-bbox="1442 580 1570 655">Minimum</th> <th data-bbox="1570 580 1720 655">Maximum</th> <th data-bbox="1720 580 1845 655">Average</th> </tr> </thead> <tbody> <tr> <td data-bbox="1070 655 1442 699">Limestone Crusher Bag Filter</td> <td data-bbox="1442 655 1570 699">23.1</td> <td data-bbox="1570 655 1720 699">26.3</td> <td data-bbox="1720 655 1845 699">24.7</td> </tr> <tr> <td data-bbox="1070 699 1442 742">Raw Mill + Kiln Bag House</td> <td data-bbox="1442 699 1570 742">26.1</td> <td data-bbox="1570 699 1720 742">29.7</td> <td data-bbox="1720 699 1845 742">27.8</td> </tr> <tr> <td data-bbox="1070 742 1442 785">Coal Mill ESP</td> <td data-bbox="1442 742 1570 785">73.2</td> <td data-bbox="1570 742 1720 785">78.7</td> <td data-bbox="1720 742 1845 785">75.8</td> </tr> <tr> <td data-bbox="1070 785 1442 828">Cooler ESP</td> <td data-bbox="1442 785 1570 828">74.4</td> <td data-bbox="1570 785 1720 828">84.6</td> <td data-bbox="1720 785 1845 828">78.9</td> </tr> <tr> <td data-bbox="1070 828 1442 871">Cement Mill No.-1 ESP</td> <td data-bbox="1442 828 1570 871">70.5</td> <td data-bbox="1570 828 1720 871">75.9</td> <td data-bbox="1720 828 1845 871">73</td> </tr> <tr> <td data-bbox="1070 871 1442 914">Cement Mill No.2 ESP</td> <td data-bbox="1442 871 1570 914">75.4</td> <td data-bbox="1570 871 1720 914">78.7</td> <td data-bbox="1720 871 1845 914">77.1</td> </tr> </tbody> </table> <p>Tripping in the kiln ESP has minimized by installation of efficient Duoflox Burner and interlocking facility was provided.</p> <p>Load based emission: (6 months Avg.) Raw mill + Kiln - 35.4 gm/tonne of feed Coal mill - 154.2 gm/tonne of feed</p> <p>Interlocking facility has been provided in the pollution control equipment so that in the event of PCE not working, respective unit shall shut down automatically.</p>	Unit Stack Attached With PCE (Pollution Controlling Equipment)	Observed SPM conc. (mg/Nm ³)			Minimum	Maximum	Average	Limestone Crusher Bag Filter	23.1	26.3	24.7	Raw Mill + Kiln Bag House	26.1	29.7	27.8	Coal Mill ESP	73.2	78.7	75.8	Cooler ESP	74.4	84.6	78.9	Cement Mill No.-1 ESP	70.5	75.9	73	Cement Mill No.2 ESP	75.4	78.7	77.1
Unit Stack Attached With PCE (Pollution Controlling Equipment)	Observed SPM conc. (mg/Nm ³)																																
	Minimum	Maximum	Average																														
Limestone Crusher Bag Filter	23.1	26.3	24.7																														
Raw Mill + Kiln Bag House	26.1	29.7	27.8																														
Coal Mill ESP	73.2	78.7	75.8																														
Cooler ESP	74.4	84.6	78.9																														
Cement Mill No.-1 ESP	70.5	75.9	73																														
Cement Mill No.2 ESP	75.4	78.7	77.1																														
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>Ambient Air Quality and Ambient Noise level are within the standards prescribed under the EPA / by state authorities. Monitoring data of Ambient Air Quality is as under.</p>																															

		<p>AAQM Data (Avg.):</p> <p>Period : April , 2015 - September , 2015</p> <table border="1" data-bbox="1070 197 2054 411"> <thead> <tr> <th>Location</th> <th>PM10 (µg/m3)</th> <th>PM2.5 (µg/m3)</th> <th>SO2 (µg/m3)</th> <th>NOX (µg/m3)</th> <th>CO (µg/m3)</th> <th>O3 (µg/m3)</th> </tr> </thead> <tbody> <tr> <td>Near Time Office</td> <td>55.6</td> <td>29.4</td> <td>6.4</td> <td>13.9</td> <td>140.1</td> <td>4.7</td> </tr> <tr> <td>Near Despatch Gate</td> <td>54.2</td> <td>31.8</td> <td>6.6</td> <td>14.1</td> <td>138.6</td> <td>4.5</td> </tr> <tr> <td>Near DM Plant (CPP-2)</td> <td>53.9</td> <td>30.4</td> <td>6.6</td> <td>13.8</td> <td>138.6</td> <td>4.5</td> </tr> <tr> <td>Near Saraswati Gate</td> <td>55.3</td> <td>31.5</td> <td>6.5</td> <td>13.7</td> <td>137.3</td> <td>4.8</td> </tr> </tbody> </table> <p>Continuous stack emission monitoring system was installed in all major stacks and Continuous Ambient Air Quality Monitoring System (CAAQMS) was also installed at two locations in upwind & downwind direction.</p>	Location	PM10 (µg/m3)	PM2.5 (µg/m3)	SO2 (µg/m3)	NOX (µg/m3)	CO (µg/m3)	O3 (µg/m3)	Near Time Office	55.6	29.4	6.4	13.9	140.1	4.7	Near Despatch Gate	54.2	31.8	6.6	14.1	138.6	4.5	Near DM Plant (CPP-2)	53.9	30.4	6.6	13.8	138.6	4.5	Near Saraswati Gate	55.3	31.5	6.5	13.7	137.3	4.8
Location	PM10 (µg/m3)	PM2.5 (µg/m3)	SO2 (µg/m3)	NOX (µg/m3)	CO (µg/m3)	O3 (µg/m3)																															
Near Time Office	55.6	29.4	6.4	13.9	140.1	4.7																															
Near Despatch Gate	54.2	31.8	6.6	14.1	138.6	4.5																															
Near DM Plant (CPP-2)	53.9	30.4	6.6	13.8	138.6	4.5																															
Near Saraswati Gate	55.3	31.5	6.5	13.7	137.3	4.8																															
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 (Bag Houses, ESPs, Bag filters) to control fugitive dust emissions have already been provided at all point source and transfer points. Dust collected in APCDs are recycled back into the process. Close circuit grinding is provided in all grinding mills. Storage of raw material is in covered sheds / stock yards. Water sprinkling system has also been provided in strategic areas.</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.</p> <p>The following activities have been initiated for reduction of CO₂ emission</p> <p><u>Reduction in thermal energy consumption by adopting</u></p> <ul style="list-style-type: none"> • Installation of duoflex burners. • Installation of highly energy efficient 6 stage Preheater at Plant • Changing of pneumatic kiln-feed system by elevator • Changing static separator of coal mill by dynamic separator for better control on coal fineness and thus, ensuring proper burning of coal. <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 • Modification of coal mill classifier 																																			

		<ul style="list-style-type: none"> • Installation of Roller Press for clinker grinding (JBP) • Installation of energy efficient Vertical Roller Mill for clinker grinding <p><u>Production of Blended Cement</u></p> <ul style="list-style-type: none"> • At present fly ash blending up to a level of 25% is being carried out which reduce CO₂ emission per tonne of cement. <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 gases is used for drying wet fly ash. 																																																								
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. Tree plantation work is continual process and till date 35124 Nos. of tree has been planted at Plant & Residential area with survival rate of 85 %.																																																								
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 water outside the plant premises. STP with tertiary treatment system was installed and in operation. Treated water is used for green belt and in plant operation.																																																								
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. Detail of Occupational health check up carried out during last six months is as under:																																																								
<p>OCCUPATIONAL HEALTH RECORD MEDICAL EXAMINATION REPORT FROM (Apr ,2015 TO Sept- 2015)</p> <table border="1"> <thead> <tr> <th>PARTICULARS</th> <th>APR</th> <th>MAY</th> <th>JUNE</th> <th>JULY</th> <th>AUG</th> <th>SEP</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>PFT</td> <td>25</td> <td>149</td> <td>71</td> <td>135</td> <td>69</td> <td>53</td> <td>502</td> </tr> <tr> <td>AUDIOMETRY</td> <td>25</td> <td>149</td> <td>69</td> <td>124</td> <td>43</td> <td>34</td> <td>444</td> </tr> <tr> <td>EYE TEST</td> <td>14</td> <td>53</td> <td>16</td> <td>22</td> <td>11</td> <td>19</td> <td>135</td> </tr> <tr> <td>MSD</td> <td>10</td> <td>61</td> <td>28</td> <td>54</td> <td>19</td> <td>59</td> <td>231</td> </tr> <tr> <td>DERMATITIS</td> <td>0</td> <td>24</td> <td>21</td> <td>22</td> <td>3</td> <td>21</td> <td>91</td> </tr> <tr> <td>TOTAL REPORT</td> <td>74</td> <td>436</td> <td>205</td> <td>357</td> <td>145</td> <td>186</td> <td>1403</td> </tr> </tbody> </table>			PARTICULARS	APR	MAY	JUNE	JULY	AUG	SEP	Total	PFT	25	149	71	135	69	53	502	AUDIOMETRY	25	149	69	124	43	34	444	EYE TEST	14	53	16	22	11	19	135	MSD	10	61	28	54	19	59	231	DERMATITIS	0	24	21	22	3	21	91	TOTAL REPORT	74	436	205	357	145	186	1403
PARTICULARS	APR	MAY	JUNE	JULY	AUG	SEP	Total																																																			
PFT	25	149	71	135	69	53	502																																																			
AUDIOMETRY	25	149	69	124	43	34	444																																																			
EYE TEST	14	53	16	22	11	19	135																																																			
MSD	10	61	28	54	19	59	231																																																			
DERMATITIS	0	24	21	22	3	21	91																																																			
TOTAL REPORT	74	436	205	357	145	186	1403																																																			

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 4.2 Km long garland drain & water is collected in the mines reservoirs. The water collected in the mines reservoirs are being utilized in the Cement Plant & in CPP.
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 guideline 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 was installed within the complex and data are recorded on daily basis.
12	As per the policy decision taken vides this Ministry's circulars No. J-21011/8/98/IA. II(I) dated 14 th May 2002 & dated 23 rd June 2003, the company shall earmark a separate fund of 1% of the total project cost, with a minimum of Rs. 50,000/- (as the unit was set up prior to 5/11/1998), for eco-development measures including community welfare in the project area. The amount shall be deposited by the company in a separate account within three months to be maintained by the Madhya Pradesh Pollution Control Board (MPPCB). The action plans in this regard shall be submitted to the MPPCB as well as to this Ministry within three months of issue of this letter. After approval of the action plan by the MPPCB, the amount deposited will be released in two installments to the project authorities based on the progress of implementation. The MPPCB shall ensure that implementation of action plan for eco development measures is completed within two years from the date of its approval by MPPCB. Further, the interest accrued during this period on the amount deposited by the project authorities with the MPPCB shall be ploughed back to the same eco development fund.	In the year of 2015-16 (for the period April, 2015 to September, 2015) company has spent Rs. 49.36 lacs for eco-development measures including community welfare under Comprehensive Rural Development Programme (CRDP). An amount spent for pollution control and environment protection measures during the April, 2015 to September, 2015 as recurring expenditure is Rs. 524.40 lacs.

B. General Conditions

No.	Conditions	Status of Compliance
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 established, Ambient Air Quality monitoring is done on regular basis and data are being submitted to State Pollution Control Board on monthly basis. Please refer Sr. no.2 for report. Monitored environmental data of last six month have already been submitted vide our letter no. JAL/EC./MoEF/2015-16 date 21.05.2015.
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 acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (nighttime).	Noise level is being monitored around the plant and the measured values are well within the prescribed limits. All the cooling fans are attached with silencer to control noise level.
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 machine has been deployed for cleaning of internal roads. The periodic occupational health check-up of all employees are 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 is operational.
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. An amount incurred for pollution control and environment protection measures during the April, 2015 to Sept., 2015 as recurring expenditure is Rs. 524.40 lac.
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.	We are regularly submitting six monthly compliance report and monitored data alongwith statistical interpretation to the Ministry / CPCB / MPPCB. The latest report was submitted vide our letter no. JAL/EC/MoEF/2015-16 date 21.05.2015

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 MoEF, GOI, 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 and Agreed
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