

HALF YEARLY COMPLIANCE REPORT OF ENVIRONMENT CLEARNACE FOR JSW CEMENT PLANT

NAME OF THE PROJECT:

CEMENT PLANT OF M/s JSW CEMENT LIMITED,
VILLAGE - BILAKALAGUDUR, GADIVEMULA MANDAL, DIST. KURNOOL (AP)

MOEF LETTER NO. & DATE:

J-11011/889/2007-1A.II (I) Dated 25.08.2008

PERIOD OF COMPLIANCE REPORT:

01.10.15 to 31.03.2016

Sl.No.	SPECIFIC CONDITIONS	COMPLIANCE
1	The company shall provide ESP to CPP and Bag Filters to Cement Mill, Raw Mill, Crushers and Storage Silos for control of particulate emissions. Stack emissions from various sources shall not exceed 50 mg / Nm ³ .	Bag Filters designed to control dust emission upto 10 mg/Nm ³ are provided to Kiln & Raw mill, Cement Mill, Cooler, Crusher, Slag mills and Storage Silos for control of particulate emissions. Average values of Stack emissions for the compliance period are given at point no :3 (General Conditions)
2	Bag house / filters shall be provided to control the fugitive emissions generated during, material transfer, Packing, loading and unloading. The Project authorities shall store all the raw materials except limestone in the covered sheds to control fugitive emissions.	Suitable bag filters are installed to control the fugitive emissions generated during material transfer, Packing, loading and unloading. Raw materials such as Gypsum, Laterite/ Iron Ore are stored in the covered sheds. Construction of coal shed has also been completed.
3	The locations of ambient air quality monitoring stations shall be set up as per statutory requirement in consultation with APPCB and additional stations shall be installed, if required, in the downside direction as well as where maximum ground level concentrations are anticipated.	Four ambient air quality monitoring stations have been provided in-consultation with PCB officials. We have also installed 3 CAAQMS and real time AAQ data are transmitted to APPCB & CPCB website.
4	Total ground water requirement shall not exceed 5,100 KLD. The project authorities shall install STP to treat domestic sewage and treated sewage shall be utilized for green development. No waste water shall be discharged outside the premises and 'zero' discharge shall be ensured.	Average groundwater withdrawal (from 01. 10.2015 to 31.03.2016) was 671 KLD STP has been commissioned in plant premises. Treated water is utilized onland for green belt development. No waste water is discharged outside the premises and 'Zero' discharge status is maintained.
5	The company shall obtain prior permission for drawl of ground water from the central ground water authority / central ground water board and a copy shall be submitted to Ministry's Regional Office at Bangalore within 3 months from the date of issue of this letter.	Permission from Central Ground Water Authority obtained vide their letter No. 21-4(15)/SR/CGWA/2008-860 dated 23/06/08 valid upto 22.06.2013. However, later on, as advised by CGWA, we obtained one time NOC for groundwater extraction from State GW Dept. Vide letter no:226/D1/2014 dt.30.12.2014.
6	The project authorities shall make all out effort to use high	Necessary provision (Inline Calciner) to use the high calorific value hazardous



[Handwritten Signature]

	calorific value hazardous waste in the kiln and accordingly necessary provision in the Kiln shall be made.	wastes in the Kiln has been made and application for grant of authorization has been submitted to APPCB, Hyderabad.
7	The fly ash generated from the Captive Power Plant shall be handled in dry silos and shall be utilized 100% for manufacturing of Pozzolana Cement.	Presently, the Captive Power Plant has not been installed and as such no fly ash is generated. However, 100 % of the fly ash generated from the Captive Power Plant will be utilized for production of PPC after installation of CPP.
8	The project authority shall transport the raw material and the product in covered means	Raw materials and products are always transported in covered vehicles.
9	The green belt shall be developed in minimum 33% of the project area as per the guidelines of Central Pollution Control Board to mitigate the effect of fugitive emission.	Greenbelt in an area of approx. 239 Acres (36.76%) has been developed.
10	The project authorities shall provide a health centre with all emergency medicines and ambulance along with full time doctor. Occupational health surveillance of the workers shall be carried out on a regular basis and records shall be maintained as per the Factories Act.	We have set up a dispensary inside the factory premises with qualified doctors, paramedical staff and all emergency arrangements including an ambulances. In addition, the company, as part of its CSR programme, has also deployed one Mobile Health Care Van for providing medical aid to nearby villages. As part of Occupational health Surveillance programme, we are conducting 6 monthly health checkup of workers exposed to dust and noise. The health check up includes spirometry (lung function test), audiometry, chest x-ray, blood examination among others.
11	The company shall comply with all the commitments made during public hearing / public consultation held on 25 th Apr., 2008. The detailed action plan for implementation of commitments made with the public shall be submitted to the Ministry's Regional Office at Bangalore and APPCB within 3 months from the date of issue of this letter.	We are fulfilling all the commitments made during the public hearing. Detailed action plan for implementation of the commitments has been submitted to MoEF. So far we have complied with the commitments such as construction of roads in nearby villages, development of grazing land for cattle, provided acoustic enclosures, silencers and vibration isolators to reduce the mining level, mining is being done upto the max. depth of 40 M and sequential blasting method is adopted to minimize the impact of vibration, noise, dust and fly rock generation.
12	No acquisition of patta land by the Government should be permitted; the company shall purchase the land from the patta holders directly.	We have directly purchased land from the Patta holders. Some land has also been allotted by the government.
13	As agreed during the public hearing meeting, the company shall construct the bridge over the River Kundu alongwith approach road to the villagers.	The bridge over river Kundu has already been constructed. Details of the approach roads constructed is as under: 1. Velpanur Rasta: Road strengthening and concreting completed 2. Madhavaram Rasta joining to Velpanur Road - Road construction completed 3. Pesarvai Road - Road strengthening completed 4. Culvert and road at Sunkalama Devalayam – under process



14	Company shall prepare the conservation plan for the reserve / protected forest located within the radius of 5 Kms. from the plant and submit to the Forest Department, AP & recommendations, if any shall be implemented.	Conservation plan has been submitted to the Forest Department, AP. Vide letter no: JSWCL/NDL/ENV/FOREST/15-16 Dt:14.07.2015.
15	All the recommendations mentioned in the CREP guidelines for the cement and power plants shall be followed and complied.	We are complying with all the applicable recommendations of CREP Guidelines.

GENERAL CONDITIONS

1	The project authorities shall strictly adhere to the stipulations of the APPCB / State Government or any other statutory body.	We are adhering to the stipulations made by the Andhra Pradesh State Pollution Control Board and the State Government. We have obtained combined consent for Air and Water and also authorization for Hazardous Waste from APPCB. We are complying with all the stipulations made in the Consent Order. The consent is renewed in a timely manner.
2	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	Agreed. We have been granted EC for expansion of clinker production capacity from 2.0 MTPA to 2.5 MTPA. Vide No:J-11011/889/2007-IA,II (I) DT:09.03.2016
3	The gaseous emissions (SO ₂ , NO _x) and particulate matter levels from various process units shall conform to the standards prescribed by the concerned authorities from time to time. At no time, the emissions shall exceed the prescribed limits. In the event of failure of any pollution control system adopted by the unit, the unit shall be immediately put out of operation and shall not be restarted until the desired efficiency has been achieved.	Gaseous and particulate emissions from various sources are within the limits prescribed by APPCB. Interlocking facilities are provided in the Pollution Control Equipments. Average values of particulate emissions from the various stacks for the period 01.10.2015 to 31.03.2016 are as under:

#	Stack attached to	SPM - Mg/Nm ³ (average)
1	Kiln/Rawmill	9.7
2	Cooler	9.0
3	Coal Mill	9.2
4	Cement Mill	7.93
5	Slagmill-1	11.7



Handwritten signature/initials

	<table border="1"> <tr><td>6</td><td>Slagmill-2</td><td>11.4</td></tr> <tr><td>7</td><td>LS Crusher</td><td>8.3</td></tr> <tr><td>8</td><td>Packer-1</td><td>11.4</td></tr> <tr><td>9</td><td>Packer-2</td><td>13.9</td></tr> <tr><td>10</td><td>Packer-3</td><td>13.4</td></tr> </table> <p>We have installed Sox and NOx analyzers in the kiln stack and are committed to maintain the norms prescribed for Sox and NOx as per latest MoEF notification dated 25.08.2014.</p>	6	Slagmill-2	11.4	7	LS Crusher	8.3	8	Packer-1	11.4	9	Packer-2	13.9	10	Packer-3	13.4					
6	Slagmill-2	11.4																			
7	LS Crusher	8.3																			
8	Packer-1	11.4																			
9	Packer-2	13.9																			
10	Packer-3	13.4																			
<p>4</p> <p>The company shall undertake following Waste Minimization measures.</p> <ul style="list-style-type: none"> ➤ Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. ➤ Use of "Closed pneumatic" system for transport of fine material. ➤ All venting systems shall be connected with dust affecting equipments. ➤ Dust collected in pollution control equipments shall be reused. 	<p>The following practices are being adopted by the company for waste minimization/ reuse:</p> <ul style="list-style-type: none"> ➤ Use of LD slag, Flue Dust, Chemical Gypsum, Pet Coke etc. (waste from industries) as partial substitute of raw material and fuel. ➤ Closed pneumatic systems are in place ➤ All the venting points are provided with pulse bag filters and the dust collected by the bag filters is recycled into the process stream 																				
<p>5</p> <p>Fugitive emissions in the work zone environment, product, and raw materials storage area shall be regularly monitored. The emissions shall conform to the limits stipulated by the State Pollution Control Boards / Central Pollution Control Board.</p>	<p>Fugitive emissions in the work zone are regularly monitored. We have provided bag filters at all transfer points of raw material conveying, stacking, packing of finished product etc. in order to control fugitive emissions. Most of the roads are concrete paved. Water spraying is carried out to control fugitive emission all around the stock yard and loading/ unloading areas. Raw material such as Gypsum and Laterite/ Iron Ore is stored under covered sheds. Fully covered conveyors are provided for material conveying throughout the plant.</p> <p>Average values of particulate emissions at AAQS for the period 01.10.2015 to 31.03.2016 are as under:</p> <table border="1"> <thead> <tr> <th>#</th> <th>Location</th> <th>Pm10</th> <th>pm2.5(ug/m3)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Near New Security gate</td> <td>47.50</td> <td>29.60</td> </tr> <tr> <td>2</td> <td>Near MRSS Building</td> <td>42.00</td> <td>24.20</td> </tr> <tr> <td>3</td> <td>Near Old Security Gate</td> <td>48.30</td> <td>25.80</td> </tr> <tr> <td>4</td> <td>Near Colony Gate</td> <td>37.80</td> <td>21.00</td> </tr> </tbody> </table>	#	Location	Pm10	pm2.5(ug/m3)	1	Near New Security gate	47.50	29.60	2	Near MRSS Building	42.00	24.20	3	Near Old Security Gate	48.30	25.80	4	Near Colony Gate	37.80	21.00
#	Location	Pm10	pm2.5(ug/m3)																		
1	Near New Security gate	47.50	29.60																		
2	Near MRSS Building	42.00	24.20																		
3	Near Old Security Gate	48.30	25.80																		
4	Near Colony Gate	37.80	21.00																		



Handwritten signature

6 The overall noise levels in and around the plant area shall be kept well within the standards 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 Environment (Protection) Act, 1986 Rules, 1989, viz., 75 dBA (day time) and 70 dBA (night time).

- The following measures are adopted for control on ambient noise:
1. Grinding of raw material and finished products is performed by Roller Press that generates less noise compared to traditional ball mills.
 2. Single chamber ball mill for cement grinding; i.e. no crushing chamber to create high noise during grinding.
 3. All major industrial fans are fitted with silencers.
 4. DG sets are provided with acoustic enclosures & installed in enclosed rooms.
 5. Sound barriers/ walls provided at certain locations in coal mill area
 6. Wobbler (in place of grizzly) has been installed in Limestone crusher
 7. Compressors are installed within enclosed rooms
 8. Speed limit restrictions for vehicles within plant premises
 9. Regular preventive maintenance of plant and machinery by competent staff.
 10. Average values of ambient noise levels for the period 01.10.2015 to 31.03.2016 are as under:

#	Location	Noise levels dBA (avg.) day	
		Day time	Night time
1	Near New Security gate	65.68	59.73
2	Near MRSS Building	65.68	58.68
3	Near Old Security gate	62.90	55.60
4	Near Colony Gate	54.83	50.41

Hazardous Chemicals:

The company does not use hazardous chemicals (except petroleum and explosives) exceeding the threshold limits prescribed under MSIHIC Rules, 1989 and as such there is no risk to the communities living around our plant and quarries. The amount of majority of hazardous chemicals used in the laboratory or elsewhere is too small to pose any risk to nearby communities.

Storage, handling, issuance, transportation and use of Petroleum and Explosives are carried out strictly in accordance with the conditions of respective licenses grant under the Petroleum and Explosives Rules respectively. **Onsite Emergency Preparedness and Disaster Management Plans** are in place and periodically tested and reviewed for their effectiveness.

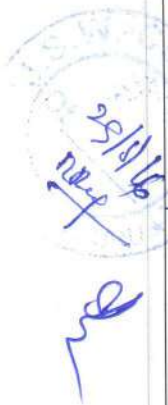
Hazardous Waste:

We have obtained authorization for collection, treatment, storage, and disposal of

7 The project authorities shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989, as amended and Hazardous Waste (Management & Handling) Rules, 1989, as amended from time to time. Authorization from SPCB shall be obtained for collection, treatment, storage, and disposal of hazardous wastes.



		hazardous wastes vide APPCB letter no APPCB/KNL/KNL/124/HO/CFD/2012-955 Dt: 03.01.2015. All the conditions of the said authorization are duly complied.
8	Rainwater harvesting shall be done within the premises. Ground water recharge structures shall be installed around the plant area in consultation with local authorities to contain the ground water table.	We have so far adopted the following measures for rainwater harvesting and groundwater recharge: <ul style="list-style-type: none"> - Constructed rooftop rainwater harvesting structure at Old Project Office Building, Stores Building and Govt Primary School, Bilakagudur building. - 4 nos. of percolation tanks in mining area - Rainwater is also harvested through 11 Nos. of recharge wells constructed within the plant premises to harvest rainwater from the stormwater drains. - Detailed hydrological study of the area has been done and report submitted to CGWB. Recommendations of the Hydrological study report will be implemented in phased manner.
9	The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment. The eco-development plan should be submitted to the SPCB within three months of receipt of this letter for approval.	We have implemented various eco-development measures in the nearby villages. Major activities undertaken are supplement government mid day meal scheme in nearby villages, distribution of artificial limbs to ortho disabled persons, tailoring centres for local women in village Bilakalagudur, helping to eradicate malaria, AIDS and other communicable diseases, scholarship to 10 th class meritorious students and vocational training to rural women and youth for soft skill development.
10	The project authorities shall earmark the adequate fund to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purpose.	As part of Environment management, we have so far invested around Rs. 34.12 Crores till 31.03.2015 (including slag unit and mines). We also spent Rs. 105 Lakhs as recurring expenditure towards environment and pollution control during 2015-16.
11	A separate Environmental Management Cell equipped with full fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.	A separate Environment management cell is in place to carry out different environment management and monitoring functions under the control of Sr. Executive of Plant.
12	The implementation of the project vis-à-vis environment action plans shall be monitored by the concerned Regional Office of the Ministry / SPCB/ CPCB. A six monthly compliance status report shall be submitted to monitoring agencies and shall be posted on the website of the Company.	We are regularly submitting the six monthly compliance reports and ambient air quality monitoring data. We are also uploading their six monthly compliance reports on our company's website, www.jsw.in.
13	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 SPCB and	Published in VAARTHA Telugu News Paper on 23/09/08 and in Deccan Chronicle English News Paper on 23/09/08 and copies of the newspaper clippings were submitted to the MoEF, Bangalore.

25/10/16


<p>may also be seen at Website of the Ministry at http://envfor.nic.in. This shall be advertised within seven days from the date 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 shall be forwarded to the concerned Regional Office of the Ministry.</p>	
<p>14 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 start of the project.</p>	<p>Date of financial closure:28.02.2010 Date of financial approval of the project:26.03.2010 Date of start of the project: September 2011</p>


(Authorized Signatory)

JSW Cement Limited

