JSW Cement Limited

Vill : Bilakagudur
Mdl : Gadivemula
Dist. : Krnool - 518 508, A.P.
Phone : 08514 - 202304
08514 - 202305
Website : www.jswcement.in

JSWCL-NDL/MOEF&CC-VIJ/22-23 Dt: 30/11/2022

The Director,
Ministry of Environment and Forests &Climate Change,
Regional Office, South eastern Zone,
Vijayawada, A.P

Dear Sir,

Sub: Six monthly Environmental Clearance Compliance report (April2022 to Sep2022)- reg.

Ref: 1. Cement Plant EC No : J-11011/889/2007-IA. II (I) Dt: 25-8-2008
2. Slag Grinding Unit EC No: J-11015/159/2010-IA. II (I) Dt: 13.05.2011
3. Expansion Project EC No: J-11011/889/2007-IA. II (I) Dt: 09-03-2016
4. Expansion Project EC No: J-11011/889/2007-IA-II (I) Dt:26-09-2022

With reference to the captioned subject and reference, we are enclosing herewith our compliance report for **Cement plant, Slag Grinding Unit, Clinker Expansion from 2.0 to 2.5 MPTA** and **Clinker Expansion from 2.5 to 3.4 MPTA** in respect of specific conditions and general conditions as given in the Environmental Clearance.

Please find the same in order.

Thanking you,

Yours faithfully,

For **JSW Cement Ltd.**

V.Narsimha Reddy
Sr. Manager (Env)

Cc: **The Environmental Engineer**
A. P. Pollution control Board
Krishna Nagar-KURNOOL

Encl: a/a

CIN-U26957MH2006PLC160839

Regd. Office :
JSW Centre, Opp. MMRDA Ground
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JINDAL Part of O. P. Jindal Group

HALF YEARLY COMPLIANCE REPORT OF ENVIRONMENT CLEARNACE FOR JSW CEMENT PLANT

NAME OF THE PROJECT: JSW CEMENT LTD, Bilakalagudur (Village), Gadivemula (Mandal) dist. Kurnool (A.P.)

MOEF LETTER NO. & DATE: J-11011/889/2007-IA-II (I) Dt:25-08-2008

PERIOD OF COMPLIANCE REPORT: 01.04.2022 to 30.09.2022

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 .	ESP Installed for the Captive Power Plant and Bag Houses/ Bag Filters are provided to Kiln & Raw mill, Cement Mill, Cooler, Crusher, Slag mills, Packers and Storage Silos for control of particulate emissions and all APCE are designed for the 10 mg/Nm3 particulate matter. 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 and coal are stored in the covered sheds. Plant all internal roads are concreted and provided Suitable water sprinklers to minimize the fugitive emissions.
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 water with-drawl (from 01.04.2022 to 30.09.2022) was 890 KLD. STP has been commissioned in plant premises. Treated wastewater 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	Permission from Central Ground Water Authority obtained vide their letter No. 21-4(15)/SR/CGWA/2008-860 dated 23/06/08.

	months from the date of issue of this letter.	
6	The project authorities shall make all-out effort to use high calorific value hazardous waste in the kiln and accordingly necessary provision in the Kiln shall be made.	Using of the high calorific value hazardous (From Pharma/Chemical industries) wastes in the Kiln. HW usage from April 2022 to Sep 2022 : 3454 MT
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.	100 % of the fly ash generated from the Captive Power Plant are using in the cement plant. Fly ash Consumption from April 2022 to Sep 2022: 2049 MT.
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 (37%) 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 a dispensary inside the factory premises with qualified doctors, paramedical staff and all emergency arrangements including an ambulance. 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 check-up of staff & workers exposed to dust and noise. The health checkup 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 25th 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 have fulfilled 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 all 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 30 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.

<table>
<tr><td>13</td><td>As agreed during the public hearing meeting, the company shall construct the bridge over the River Kundu alongwith approach road to the villagers.</td><td>The bridge over river Kundu has already been constructed. Suitable approach roads constructed nearby villages.</td></tr>
<tr><td>14</td><td>Company shall prepare the conservation plan for the reserve / protected forests located within the radius of 5 Kms. from the plant and submit to the Forest Department, AP & recommendations, if any shall be implemented.</td><td>Conservation plan approved letter No: 5967/2021//WL-2 Dt: 9.7.2021 and recommendations are under progress.</td></tr>
<tr><td>15</td><td>All the recommendations mentioned in the CREP guidelines for the cement and power plants shall be followed and complied.</td><td>We are complying with all the applicable recommendations of CREP Guidelines.</td></tr>
<tr><td colspan="3">GENERAL CONDITIONS</td></tr>
<tr><td>1</td><td>The project authorities shall strictly adhere to the stipulations of the APPCB / State Government or any other statutory body.</td><td>We are adhering to the stipulations made by the Andhra Pradesh State Pollution Control Board and the State Government. We have obtained consent for Air, Water and Hazardous Waste authorization from APPCB vide letter dt: 16.06.2017 and its validity up to 30.09.2027. We are complying with all the stipulations made in the Consent Order.</td></tr>
<tr><td>2</td><td>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.</td><td>We have applied for the Environmental clearance expansion project for clinker production from 2.5 to 3.4 MTPA and Cement from 4.8 to 6.0 MTPA and have been granted for EC letter no:
J-11011/889/2007-IA.II (I) DT:26.09.2022

Waste Heat Recovery Power Plant of 12.2 MW civil & Mechanical works are under progress and Consent For Establishment order no:124/APPCB/CFE/RO-KNL/HO/2009 Dt:30.11.2022</td></tr>
<tr><td>3</td><td>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</td><td>Gaseous and particulate emissions from various sources are within the limits prescribed by APPCB. Interlocking facilities are provided in the Pollution Control Equipment.
Average values of particulate emissions from the various stacks for the period 01.04.2022 to 30.09.2022 are as under:
<table>
<tr><td>#</td><td>Stack attached to</td><td>SPM - Mg/Nm3 (average)</td></tr>
<tr><td>1</td><td>Kiln/Rawmill</td><td>SPM :16.45
SO_2 : 2.85</td></tr>
</table>
</td></tr>
</table>

<table>
<tr>
<td></td>
<td>desired efficiency has been achieved.</td>
<td>
<table>
<tr><td></td><td></td><td>Nox : 312</td></tr>
<tr><td>2</td><td>Cooler</td><td>13.50</td></tr>
<tr><td>3</td><td>Coal Mill</td><td>17.25</td></tr>
<tr><td>4</td><td>Cement Mill</td><td>11.25</td></tr>
<tr><td>5</td><td>Slagmill-1</td><td>18.00</td></tr>
<tr><td>6</td><td>Slagmill-2</td><td>14.05</td></tr>
<tr><td>7</td><td>LS Crusher</td><td>12.00</td></tr>
<tr><td>8</td><td>Packer-1</td><td>12.00</td></tr>
<tr><td>9</td><td>Packer-2</td><td>11.50</td></tr>
<tr><td>10</td><td>Packer-3</td><td>12.90</td></tr>
</table>
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.
</td>
</tr>
<tr>
<td>4</td>
<td>The company shall undertake following Waste Minimization measures.
➢ 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 equipment’s.
➢ Dust collected in pollution control equipment’s shall be reused.</td>
<td>The following practices are being adopted by the company for waste minimization/ reuse:
➢ Reuse of byproducts i.e Slag, Flue Dust, AL Killed Slag, Chemical Gypsum, and Red mud as partial substitute of raw material.
➢ Closed pneumatic systems are in place
➢ All the venting points are provided with pulse bag filters.
➢ Dust collected by the bag filters is recycled into the process stream</td>
</tr>
<tr>
<td>5</td>
<td>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.</td>
<td>Fugitive emissions in the work zone are regularly monitored and average values for the period from 01.04.2022 to 30.09.2022.
<table>
<tr><td>Sl no</td><td>Location</td><td>Dust concentration(mg/Nm3)</td></tr>
<tr><td>1</td><td>Packing plant</td><td>0.51</td></tr>
<tr><td>2</td><td>Coal mill Hopper</td><td>0.34</td></tr>
<tr><td>3</td><td>Raw mill hopper</td><td>0.42</td></tr>
<tr><td>4</td><td>Crusher Hopper</td><td>0.41</td></tr>
</table>
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. All the roads are concrete paved. Water spraying is carried out to control fugitive emission all around the</td>
</tr>
</table>

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<tr><td></td><td></td><td>stock yard and loading/ unloading areas. Raw material such as Gypsum and Coal is stored under covered sheds. Fully covered conveyors are provided for material conveying throughout the plant.</td></tr>
<tr><td>6</td><td>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).</td><td>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. DG sets are provided with acoustic enclosures & installed in enclosed rooms.
3. Compressors are installed within enclosed rooms
4. Speed limit restrictions for vehicles within plant premises
5. Regular preventive maintenance of plant and machinery by competent staff.
6. Average values of ambient noise levels for the period 01.04.2022 to 30.09.2022 are as under:
<table>
<tr><th>#</th><th>Location</th><th>Nose levels dBA (avg.) day
Day time</th><th>Night time</th></tr>
<tr><td>1</td><td>Near New Security gate</td><td>65.88</td><td>54.10</td></tr>
<tr><td>2</td><td>Near MRSS Building</td><td>68.75</td><td>63.55</td></tr>
<tr><td>3</td><td>Near Old Security gate</td><td>67.00</td><td>57.0</td></tr>
<tr><td>4</td><td>Near Colony</td><td>54.00</td><td>50.00</td></tr>
</table></td></tr>
<tr><td>7</td><td>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.</td><td>Hazardous Chemicals:
The company does not use hazardous chemicals (except petroleum and explosives) exceeding the threshold limits prescribed under MSIHC 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.</td></tr>
</table>

		Hazardous Waste: We have obtained authorization for collection, treatment, storage, and disposal of hazardous wastes vide APPCB letter no 248553/APPCB/KNL/KNL/CFO&HWA/HO/2022- Dt: 07.10.2022. All the conditions of the said authorization are duly complied. **HW usage from 01.04.2022 to 30.09.2022 : 3454 MT**
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: - Constructed **rooftop rainwater harvesting** structure at Stores Building, Workshop, Time office, Coal shed, MRSS Building and LC-2 Load centre and Govt Primary School, Bilakagudur building. - Detailed hydrological study of the area has been done and report submitted to CGWB.
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 1. Skill development for woman 2.Ensure 100% student enrollment in DIZ Villages 3.Distribution of bicycles and merit schoplers day meal scheme in nearby villages, Digital class distribution of artificial limbs to ortho disabled persons, tailoring centres for local women in village Bilakalagudur, helping to eradicate malaria, scholarship to 10th class meritorious students.
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.	Agreed and implementing
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	We are regularly submitting the six monthly compliance to MOEF &CC /SPCB, Last submitted letter no: JSWCL-NDL/MOEF&CC-CHENNAI/F-02/22--23 submitted on dt:.27.05.2022, We are also uploaded the six monthly compliance reports on our company's website, www.jsw.in.

	agencies and shall be posted on the website of the Company.	
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 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.	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.
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.	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

HALF YEARLY COMPLIANCE REPORT OF ENVIRONMENT CLEARNACE FOR SLAG GRINDING UNIT

NAME OF THE PROJECT: Expansion of Cement Grinding Unit from 2.2 MTPA to 4.8 MTPA by setting up of 2.60 MTPA Slag Grinding Unit at Bilakalagudur (Village), Gadivemula (Mandal) dist. Kurnool (A.P.)

MOEF LETTER NO. & DATE: J-11011/159/2010-IA-II (I) Dt:13-05-2011

PERIOD OF COMPLIANCE REPORT: 01.04.2022 to 30.09.2022

Sl.No.	CONDITIONS	COMPLIANCE
6 A	**SPECIFIC CONDITIONS**	
I	Continuous stack monitoring facilities to monitor gaseous emissions from the stacks shall be provided. Particulate emissions shall be controlled within 50mg/Nm3 by installing adequate air pollution controlled systems Viz. Bag filters and stacks of adequate height etc. Data on ambient air, fugitive and stack emissions shall be submitted to the Ministry's Regional Office at Bangalore, Andhra Pradesh Pollution Control Boards (APCB) and CPCB regularly.	We have provided Bag Houses in all the equipment viz.Slag Mills and Packing Plant. Online continuous monitoring facilities to monitor particulate emissions from the stacks have been provided to Slag mill 1 & 2 stacks. Adequate stack heights have been provided. Particulate emissions are maintained well within the prescribed limits. We have also installed 3 nos. of CAAQMS for monitoring ambient air quality. Online data are electronically transmitted to APPCB & CPCB website. It is also ensured that at no time the particulate emissions from the grinding unit exceed 30 mg/Nm^3. Interlocking facility has been provided in the pollution control equipment.
Ii	The national Ambient Air Quality Standards issued by the Ministry vide G.S.R.No.826 (E) dat.16th Nov ,2009 should be followed	We are complying with the National Ambient Air Quality Standards and have installed 3 nos. of continuous ambient air quality stations with online connectivity to APPCB and CPCB servers.
Iii	Gaseous emission levels including secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the ministry and regularly monitored. Guidelines/Code of practice issued by the CPCB should be followed.	We have installed latest technology Bag Houses designed to control the stack emission below the 10 mg/Nm^3 particulate matter. Pulsejet bag filters are installed at all the material transfer points for controlling fugitive emissions. In additions, water sprinklers are provided at belt conveyors, wherever required, to effectively suppress the dust during material conveying. Emissions from stacks as well as ambient air quality parameters are continuously

		monitored and displayed at security main gate for public domain.
iv	The company shall install adequate dust collection and extraction system to control fugitive dust emissions at various transfer points, handling (unloading, conveying, transporting, stacking), vehicular movement, bagging and packing areas etc. All the raw materials stock piles should be covered. A closed clinker stockpile system shall be provided. All Conveyors should 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	Pulse bag filters are installed at all the material transfer points for controlling fugitive emissions. All the internal roads meant for vehicular movement are concrete paved. Roads are regularly swept to control fugitive emission during vehicular movement. Gypsum and coal stockpiles are covered. Clinker is stored in RCC silo. All the conveyors are fully covered with GI sheets.
v	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 PM and RSPM such as haul road, loading unloading points transfer points and other vulnerable areas. It shall be ensured that the ambient air quality parameters conform to the norms prescribed by the Central pollution control board in this regard.	We have provided concrete paved internal approach roads around the stockyard and raw material storage areas. All the approach roads connecting to storage yards. We are also deploying water tankers regularly to spray water on unpaved areas for dust suppression. Roadside water sprinklers have also been provided and regularly operated for dust suppression. We are also installed water sprinklers along the stockpiles of coal and Lime stone and also on the road sides. The ambient air quality norms are maintained within the prescribed norms.
vi	Efforts shall be made to reduce impact of the transport of raw materials and end products on the surrounding environment including agriculture land. All the raw materials including flyash should be transported in the closed containers only and should not be overloaded. Vehicle emissions shall be regularly monitored.	We have constructed a 10 M x 30 Km concrete road from factory to Nandyal town to reduce the impact of transport of raw material/ finished goods on the environment/ agriculture land. We are also covering the trucks carrying raw material and finished products with tarpaulin in compliance with the CPCB guidelines. Loose powdery material viz. cement /GGBS/ fine coal etc. are transported in bulkers.
vii	Water requirement from bore wells for the proposed expansion shall not exceed 200 m^3/day. Efforts shall be made to further reduce water consumption by using air cooled	Our total ground water requirement is less than the permitted 200 m3/day and no waste water is being generated from the cement grinding

	condensers. All the treated wastewater should be recycled and reused in the process and /or for dust suppression and greenbelt development and other plant related activities etc. No process waste water shall be discharged outside the factory premises and zero discharge should be adopted	unit. We have also constructed & commissioned STP within the plant premises to treat the domestic waste water. The treated water is being used on-land for plantation and Green belt development.
viii	Efforts shall be made to make rain water harvested. If needed, capacity of the reservoir shall be enhanced to meet the maximum water requirement. Only balance water requirement shall be met from the other sources.	We have adopted the following measures for rainwater harvesting and groundwater recharge: - Constructed **rooftop rainwater harvesting** structure at Stores Building, Workshop, Time office, Coal shed, MRSS Building and LC-2 Load centre and Govt Primary School, Bilakagudur Village.
ix	All the bag filters dust and cement dust from pollution control devices shall be be recycled and reused in the process used for cement manufacturing. Spent oil and batteries shall be sold to authorized recyclers/reprocesses only.	All the fine dust is collected at bag filters from all operations and automatically recycled into the system. Spent oil and batteries are sold to authorized recyclers.
x	The green belt shall be developed in at least 33% area in and around the cement plant as per CPCB guidelines to mitigate the effects of air emissions in consultation with local DFO.	Greenbelt in an area of 239 Acres (37%) has been developed.
xi	At least 5% of the total cost of the project shall be earmarked towards the corporate social responsibility and item-wise details along with time bound action plan should be prepared and submitted to the Ministry Regional office at Bangalore. Implementation of such programme shall be ensured accordingly in a time bound manner	We have earmarked 2% of the project cost towards corporate social responsibility. We have implemented various CSR schemes during the year 2021-22 with an expenditure of Rs.132.24 Lakhs. Proposal Budget for 2022-23 is Rs.225 Lakhs
xii	The company shall provide housing for construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, safe drinking water, medical for health care, crèche etc. The housing may be in the form of temporary structure to be removed after the completion of the project.	The project has been completed and the necessary infrastructure was provided during construction.
A	**GENERAL CONDITIONS**	
I	The project authorities must strictly adhere to the stipulations made by the Andhra Pradesh State	We are adhering to the stipulations made by the Andhra Pradesh State Pollution Control Board and the State Government. We have obtained

<table>
<tr><td></td><td>Pollution Control Board and the State Government.</td><td>combined consent for Air and Water and authorization for Hazardous Waste from APPCB. We are complying with all the stipulations made in the Consent Order. The consent is valid up to 30.09.2022.</td></tr>
<tr><td>Ii</td><td>No further expansion or modifications in the plant shall be carried out without prior approval of the ministry of Environmental and Forests</td><td>Agreed. We have been granted for EC for expansion of clinker production capacity from 2.5 to 3.4 MTPA and Cement from 4.8 to 6.0 MTPA. Letter No: J-11011/889/2007-IA-II (I) Dt:26-09-2022</td></tr>
<tr><td>iii</td><td>The gaseous emissions from various process units shall conform to the load/mass based standards notified by this Ministry on 19 May ,1993 and standards prescribed from time to time. The State PCB may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location.</td><td>Gaseous and particulate emissions from various sources are within the limits prescribed by APPCB. Interlocking facilities are provided in the Pollution Control Equipment's.
Average values of particulate emissions from the various stacks for the period 01.04.2022 to 30.09.2022 are as under:
<table>
<tr><th>#</th><th>Stack attached to</th><th>SPM - Mg/Nm^3 (average)</th></tr>
<tr><td>1.</td><td>Slagmill-1</td><td>18.00</td></tr>
<tr><td>2.</td><td>Slagmill-2</td><td>14.05</td></tr>
</table></td></tr>
<tr><td>Iv</td><td>At least four ambient air quality monitoring stations should be established in the downward direction as well as where maximum ground level concentration of PM10, SO2 and NOx are anticipated in consultation with the SPCB.Data on ambient air quality and stack emission shall be regularly submitted to this Ministry including its Regional office Bangalore and the SPCB/CPCB once in six months.</td><td>We have installed Ambient Air Quality Monitoring stations and the ambient air quality including Ambient Noise Levels are not exceeding the standard stipulated. Monitoring of Ambient air quality and stack emission is being carried out regularly and reports are being submitted to the APPCB and last report submitted vide letter no: JSWNDL/Env-Reports/2022-23 dt:09.10.2022 for the month Sep 2022. We have also installed 3 nos. of Continuous Ambient Air Quality Stations (CAAQMS) and the real-time data are continuously being transmitted to APPCB website on public domain. Air Quality data are also displayed at the main factory gate.</td></tr>
<tr><td>V</td><td>Industrial waste water shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19 May, 1993 and 31st Dec,1993 or as amended from time to time. The treated water shall be utilized for plantation purpose.</td><td>No waste water generated from the process. Treated waste water form STP is used on-land for gardening/ greenbelt development.</td></tr>
</table>

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<tr>
<td>vi</td>
<td>The overall noise levels in and around the plant area shall be kept well within the plant standards 85 dB(A) by providing noise control measures including acoustic hoods, silencers, enclosures etc. On all sources of noise generation.</td>
<td>The overall noise levels in and around the plant area is well within the standards. The following measures are adopted for control on noise:
1. Grinding of raw material and finished products is performed by Roller Press that generates less noise compared to traditional ball mills.
2. All major industrial fans are fitted with silencers.
3. DG sets are provided with acoustic enclosures & installed in enclosed rooms.
4. Compressors are installed within enclosed rooms
5. Speed limit restrictions for vehicles within plant premises
6. Regular preventive maintenance of plant and machinery by competent staff.
Average values of ambient noise levels for the period 01.04.2022 to 30.09.2022 are as under:
<table>
<tr><th>#</th><th>Location</th><th>Noise levels dBA (avg.)</th></tr>
<tr><td>1</td><td>Near New Security Gate</td><td>65.88</td></tr>
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<tr><td>4</td><td>Near Colony Gate</td><td>54.00</td></tr>
</table>
</td>
</tr>
<tr>
<td>vii</td>
<td>Occupational health surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.</td>
<td>We have a OHC inside the factory premises with qualified doctors, paramedical staff and all emergency arrangements including ambulance. 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.
Occupational health surveillance of the workers is being done on regular basis and records maintained as per the Factory Act.</td>
</tr>
<tr>
<td>viii</td>
<td>The company shall develop surface water harvesting structures to harvest the rainwater for</td>
<td>We have constructed rain water harvesting structures for harvesting the roof tops water and storm water in cement plant. Rainwater is harvested</td>
</tr>
</table>

	utilization in the lean season besides recharging the ground water table.	from the storm water drains through recharge wells.
ix	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report. Further, the company must undertake socio-economic development programme, educations programmes, drinking water supply and heath care.	We are complying with all environmental protection measures and safeguards recommended in their EIA/EMP report. Also our company has undertaken various socio-economic development activities in the surrounding villages. The key areas of community/ socio economic development are as follows: 1) Improving Living conditions, a). Agri Business b). Heath and Nutrition c). War on Covid d). Water 2) Promoting Social development, a). Skills b). Education 3) Addressing Environmental issues a). Environment 4) Swachcha Bharat Abhiyan a) Sanitation. We have implemented various schemes under the above heads to achieve the CSR objectives.
x	The requisite funds shall be earmarked towards capital cost and recurring cost/annum for environmental pollution control measures to implement the conditions stipulated by the MOEF 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 Bangalore. The funds so provided shall not be diverted for any other purpose.	Agreed and implementing
xi	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad /Municipal Corporation, Urban Local Body and the local NGO, if any, from whom suggestions/representations, if any, were received while processing of the proposal. The clearance letter shall be put on the web site of the company by the proponent.	A copy of clearance letter had been sent to all the concerned and no suggestions and representation were received so far. We have also put the clearance letter on the website of the company.
xii	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitoring data on their website and shall update the same periodically. It shall simultaneously be sent to the regional office of	Status of compliance and monitored data are regularly uploaded on the company's website (www.jswcement.in) and reports are being sent to the regional Office of the MoEF at Bangalore and the respective Zonal Office of CPCB and monitored data are being displayed through

	MOEF at Bangalore. The respective zonal office of CPCB and SPCB. The criteria pollutant levels namely, PM_{10}, SO_2, NO_x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the gate of the company in the public domain.	electronic display board at the main gate of the company in the public domain.
xiii	The project proponent shall also submit six monthly report on the status of the compliance of the stipulated environmental conditions including results of the monitored data to the regional office of MOEF, the respective zonal office of CPCB and SPCB.	We are regularly submitting the six-monthly compliance reports and Last six monthly compliance report submitted on 27.05.2022 vide letter no: JSWCL-NDL/MOEF&CC-CHENNAI/F-02/22-23. ambient air quality monitoring data. We are also uploading our six-monthly compliance reports in the company's website, www.jsw.in.
xiv	The Environmental statement for each finical year ending 31 st March in Form-V as is mandated to be submitted by the project proponent to the concerned state PCB.	We are regularly submitting the environmental statement in Form-V to the APPCB.Copy of the Environment Statement is also uploaded on the company website (www.jsw.in).
xv	The project proponent shall inform the public that the project has been accorded environmental clearance by Ministry and copies of the clearance letter are available with SPCB and may also be seen at Website of the MOEF 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 regional office at Bangalore.	We have already advertised in two local newspapers (Vartha and Deccan Chronicle dated 23.09.2008) widely circulated in the region and copies of the same had been forwarded to the regional office, MoEF&CC.
xvi	The project authorities shall inform the regional office as well as the ministry date of financial closure and final approval of the projec5t by the concerned authorities and the date of commencing the land development work.	Project has been completed and is ongoing and we are communicating our progress periodically.
7	The ministry may revoke or suspend the clearance if implementation of any of the above conditions is not satisfactory.	Noted
8	The ministry reserves the right to stipulate additional conditions if found necessary. The company in a time bound manner shall implement these conditions.	Noted.

9.	The above conditions shall be enforced, interalia, under the provisions of the Water (Prevention and Control of pollution) Act, 1974, The Air (Prevent5ion & Control of pollution) Act 1981 and The Environmental Protection Act, 1986, Hazardous Waste (management, handling and transboundary) Rules, 2008 and Public (Insurance) Liability Act, 1991 along-with their amendments and Rules.	Agreed.

HALF YEARLY COMPLIANCE REPORT OF ENVIRONMENT CLEARNACE FOR JSW CEMENT PLANT CLINKER 2.0 TO 2.5 MPTA & CHANGE OF PRODUT MIX FROM 4.8 MTPA (1.1 MTPA OPC & 3.7 MTPA PSC) TO 4.8 MTPA OPC/ PSC/GGBS.

NAME OF THE PROJECT: JSW CEMENT LTD, Bilakalagudur (Village), Gadivemula (Mandal) dist. Kurnool (A.P.)

MOEF& CC LETTER NO. & DATE: J-11011/889/2007-IA.II (I) Dated 09.03.2016

PERIOD OF COMPLIANCE REPORT: 01.04.2022 to 30.09.2022

<table>
<tr><th>Sl.No.</th><th>SPECIFIC CONDITIONS</th><th>COMPLIANCE</th></tr>
<tr><td>1</td><td>The project proponent should install 24x7 air monitoring devices to monitor air emissions, as provided by the CPCB and submit report to ministry and its regional office.</td><td>We have installed 24x7 three CAAQMS and Six online stack monitoring equipment's and real time AAQ data are transmitted to APPCB & CPCB website</td></tr>
<tr><td>2</td><td>The standards issued by the Ministry vide G.S.R NO:612(E) dated 25.08.2014 regarding cement plants with respect to particulate matter ,SO2 and NOx shall be followed</td><td>Average Emission data from 01/04/2022 to 30/09/2022 are as follows:
<table>
<tr><td>Stack</td><td>Emission (mg/Nm3)</td><td>Applicable norms (mg/Nm3)</td><td>Remarks</td></tr>
<tr><td>Stack PM</td><td>16.45</td><td>30</td><td></td></tr>
<tr><td>Kiln Sox</td><td>2.85</td><td>1000</td><td>Pyritic Sulphur in limestone 0.68%</td></tr>
<tr><td>Kiln NOx</td><td>312</td><td>800</td><td>Nox and So2 analyzers installed on 25/08/2014</td></tr>
</table></td></tr>
<tr><td>3</td><td>Continuous stack monitoring facilities to monitor gaseous emissions from the process stacks shall be provided. After expansion, limit of PM shall be controlled to meet the prescribed standards by installing adequate air pollution control viz Electrostatic precipitators to clinker, bag house to raw mill/ kiln and bag filters to coal mill and cement mill. Low Nox burner shall be provided to control NOx emissions. regular calibration of the instruments be ensured.</td><td>We have installed Six online continuous stacks monitoring for the major stacks and Sox and NOx analyzers in the kiln stack to monitor PM, Sox and NOx as per latest MoEF notification dated 25.08.2014
Regular maintenance of online emission monitoring systems is done by qualified engineers deputed by our AMC vendor. Facilities for online calibration and tamper proof mechanism are in place.</td></tr>
<tr><td>4</td><td>Efforts shall be made to achieve power consumption of 70 units /tone of Portland-Pozzolona cement (PPC) and 95 units /tone of cement for Ordinary Portland Cement and thermal energy consumption of 670 kcal/Kg of Clinker.</td><td>Power consumption for Ordinary Portland Cement (OPC) From April to Sep 22 was 84.94 kWh/t cement and Thermal energy consumption was: 751.15.38 kcal/Kg of Clinker. We are planning for cooler modification to further reduce the thermal energy consumption.</td></tr>
</table>

<table>
<tr><td>5</td><td>National Ambient Air Quality Standards issued by Ministry vide G.S.R No:826 (E) dated 16.11.2009 shall be followed.</td><td>Agreed and followed</td></tr>
<tr><td>6</td><td>AAQ Modeling shall be carried out based on the specific imitative measures taken in the existing project and proposed for the expansion project to keep the emission levels well below prescribed standards.</td><td>This study was conducted during the project stage and accordingly, the bag houses (including clinker cooler) were installed to control the outlet emission below 30 mg/Nm$^{3.}$</td></tr>
<tr><td>7</td><td>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 followed.</td><td>CPCB guidelines for control of fugitive emissions are being followed. Fugitive emissions are maintained well within the prescribed norms. Average Fugitive emissions from 01/04/2022 to 30/09/2022 are as follows:
<table>
<tr><td>Sl no</td><td>Location</td><td>Dust concentration(mg/Nm3)</td></tr>
<tr><td>1</td><td>Packing plant</td><td>0.51</td></tr>
<tr><td>2</td><td>Coal mill Hopper</td><td>0.34</td></tr>
<tr><td>3</td><td>Raw mill hopper</td><td>0.42</td></tr>
<tr><td>4</td><td>Crusher Hopper</td><td>0.41</td></tr>
</table></td></tr>
<tr><td>8</td><td>Arsenic and Mercury shall be monitored in emissions and water.</td><td>Values of Arsenic and Mercury in emissions Air and Water are as follows:
1.Kiln stack: a). Arsenic (AS): BLQ mg/Nm3 b). Mercury (Hg): BLQ mg/Nm3 2. Water a).).Arsenic (AS): Nil mg/Nm3 b).Mercury (Hg) : 0.001 mg/Nm3</td></tr>
<tr><td>9</td><td>The coal shall be lined and covered</td><td>Coal yard is lined and covered shed has been provided.</td></tr>
<tr><td>10</td><td>Efforts shall be made to reduce impact of transport of the raw materials and end products on the surrounding environment including agriculture land by use of conveyer's/rail mode of transport wherever feasible. The company shall have separate truck parking area. Vehicular emissions shall be regularly monitored.</td><td>We have constructed a 10 M x 30 Km concrete road from factory to Nandyal town to reduce the impact of transport of raw material/ finished goods on the environment/ agriculture land. We are also covering the trucks carrying raw material and finished products with tarpaulin in compliance with the CPCB guidelines. Loose powdery material viz. cement /GGBS/ fine coal etc. are transported in bulkers.</td></tr>
<tr><td>11</td><td>Efforts shall be made to further reduce water consumption by using air cooled condensers. All the treated water shall be recycled and reused in the process and / or for dust suppression and greenbelt development and other plant related activities etc. No process waste water shall be discharged outside the factory premises and Zero discharge shall be adopted.</td><td>We have installed Air Cooled Condenser in CPP. Treated waste water are using used for the dust suppression. No process water will be discharged outside the factory premises.
Domestic waste water treated in the STP and after the same water using for greenbelt development.</td></tr>
<tr><td>12</td><td>Efforts shall be made to make use of rain water harvested .If needed,</td><td>We have so far adopted the following measures for rainwater harvesting and groundwater recharge:</td></tr>
</table>

	capacity of the reservoir shall be enhanced to meet the maximum water requirement .Only balance water requirement shall be met from the other sources.	- Constructed **rooftop rainwater harvesting** structure at Stores Building, Workshop, Time office, Coal shed, MRSS Building and LC-2 Load centre and Govt Primary School, Bilakagudur Village. - So far the harvested water is directly recharged into groundwater.
13	Regular monitoring of influent and effluent surface, sub surface and ground water shall be ensured and treated waste water shall be meet the norms prescribed the norms by the State Pollution Control Board or described under the environment (Protection) Act, 1986 whichever are more stringent. Efforts shall be made to reduce impact of transport Leachate study for the effluent generated and analysis shall also regularly carried out and report submitted to the ministry 's regional office and SPCB and CPCB.	No effluent is being generated from the cement manufacturing process operations. Domestic waste water generated from the Canteen and offices was treated at STP and final treated waste water are using for Greenbelt development. Inlet and outlet of the STP waste water testing reports are submitting to SPCB.
14	All the bag filters dust, raw mill dust, coal dust, clinker dust and cement dust from pollution control devices shall be recycled and reused in the process used for cement manufacturing. Spent oil and batteries shall be sold to authorized recyclers/reprocesses only.	Provided bag filters to control fugitive emissions at all the transfer points and the collected dust is automatically recycled into the system. Collected waste oil and batteries are sold to authorized recyclers only.
15	The kiln shall be provided with a flexible fuel feeding system to enable us of hazardous wastes and other wastes including biomass.	The suitable system has been provided to feed the hazardous waste in to the kiln.
16	The proponent shall examine and prepare a plan for utilization of high calorific wastes such as chemical wastes, distillation residues, refuse derived fuels, etc as alternate fuels based on availability and composition. For, this the proponent shall identify suitable industries with such waste and enter into an MOU for long term utilization of such wastes as per the Environmental (Protection) Rules, 1986 and with necessary approvals.	Utilization of high calorific Hazardous waste from the Pre-processing Units /Pharmaceuticals' industries waste as an alternate fuel in kiln as partial replacement of fossil fuel. The MOU with M/s. Mylan Laboratories Ltd (Units2,7, 8,9 and 10) and M/s. Ramkey Enviro Engineers for the hazardous waste for three years' agreement. HW **usage from 01. 04. 2022 to 30.09.2022: 3454 MT**
17	Efforts shall be made to use of high calorific hazardous waste in the cement kiln and necessary provision shall be made accordingly. The PP shall enter into an MOU with units	Please refer to point no:16

	with potential for generating hazardous waste and in accordance with Hazardous waste Regulations and prior of the APPCB.	
18	Green belt over 33% of the total project area shall be developed within the plant premises with at least 10 meter wide range greenbelt along the periphery of the project area and along road sides etc. by planting native and board leaved species in consultation with local DFO, local community and as per the CPCB Guidelines	Greenbelt in an area of 239 Acres (37%) has been developed.
19	The Project Proponent shall provide solar light system for all common areas, street lights, villages, parking around the project area and maintain the same regularly.	We have already provided solar lighting system in nearby villages and inside the plant premises.
20	The Project Proponent shall provide LED Lights in their office and residential areas.	All lightings are replaced with LED lights.
21	All the recommendations made in the charter on corporate Responsibility for Environmental Protection (CREP) for the cement plants shall be completd.	We are complying with all the applicable recommendations of CREP Guidelines.
22	At least 2.5% of the total cost of the project shall be earmarked towards the Enterprise Social Commitment based on local needs and action plan with the financial and physical breakup details shall be prepared and submitted to the ministry Regional office. Implementation of such program me shall be ensured accordingly in a time bound manner.	Since the expansion was carried out through optimization and minor modifications, the project capital cost was nil. However, we have already earmarked 2.5% of the project cost as mentioned in our earlier EC vide ref J-11011/889/2007-IA II (I) dt:09.03.2016 for expansion of Slag Grinding unit. Action plan for the ESC budget has also been submitted to the MoEF&CC. The same was duly implemented as committed.
23	The proponent shall prepare a detailed CSR plan for the every year for the next five years for the existing –cum-expansion project, which includes village wise, sector wise (Health, Education, Sanitation, Health, Skill Development and infrastructure requirements such as strengthening of village roads, avenue plantation,etc), activities in consultation with local communities and administration. The CSR plan will include the amount of 2% retain annual profits as provided for in clause 135 of the companies Act,2013	5 year CSR plan in accordance with the Companies Act requirements has been prepared and being implemented every year by the CSR cell. Separate budget head has been created for the CSR for the year 2021-22 for Rs 1.5 Crores. CSR expenditure upto March 2022 was Rs 132.24 Lakhs as revenue expenditure and Rs nil as capital expenditure.

	which provides for 2% of the average net profit of pervious 3 years towards CSR activities for the life of the project. A separate Budget head shall be created and the annual capital and revenue expenditure on various activities of the plan shall be submitted as part of the compliance Report to Ro. The details of CSR plan shall also be uploaded on the company website and shall also be provided in the annual Report of the company.	
24	A Risk Assessment study and Disaster Preparedness and Management plan along with the mitigation measures shall be prepared with a focus of Disaster Prevention and a copy submitted to the ministry regional office, SPCB and CPCB within three months of issue of environmental clearance letter.	Risk assessment cum disaster management plan with mitigation measures was prepared and included in the EIA/ EMP report and the same was submitted to the concerned regulatory authorities.
25	To educate the workers, all the work places where dust may cause a hazard shall be clearly indicated as a dust exposure area through the use of display signs which identifies the hazard and the associated health effects.	Boards/ posters/ signs showing dust as a hazard and its associated impacts on human health are displayed in all dust prone areas. In addition, workers are periodically educated to use dust masks while working in dust prone areas. Lung function tests of workers engaged in dust prone areas is done on 6 monthly basis.
26	Provision shall be made for the housing of construction of labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, 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.	The project has been completed and the necessary infrastructure was provided during construction.

GENERAL CONDITIONS		
1	The project authorities must strictly adhere to the stipulations made by the Andhra Pradesh Pollution Control Board and the State Government.	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 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 and its validity up 30.09.2027.
2	No further expansion or modifications in the plant shall be carried out without prior	Noted and agreed.

<table>
<tr><td></td><td>approval of the Ministry of Environment and Forests.</td><td></td></tr>
<tr><td>3</td><td>At least four ambient air quality monitoring stations should be established in the downward direction as well as where maximum ground level concentration of PM10, SO2 and NOx are anticipated in consultation with the SPCB. Data on ambient air quality and stack emission shall be regularly submitted to this Ministry including its Regional office at Cheenai and the SPCB/CPCB once in six months.</td><td>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
Average values of particulate emissions at AAQS for the period 01.04.2022 to 30.09.2022.
<table><tr><td>Location</td><td>PM-10 µgm/m³</td><td>PM 2.5 µgm/m³</td><td>So2 µg/m³</td><td>Nox µgm/m3</td></tr><tr><td>New Security gate</td><td>64.0</td><td>39.00</td><td>11.00</td><td>12.80</td></tr><tr><td>MRSS</td><td>70.0</td><td>49.00</td><td>10.02</td><td>12.00</td></tr><tr><td>Old Security gate</td><td>57.00</td><td>31.00</td><td>11.00</td><td>12.25</td></tr><tr><td>Colony</td><td>50.00</td><td>35.0</td><td>10.70</td><td>12.04</td></tr></table></td></tr>
<tr><td>4</td><td>Industrial waste water shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19 May, 1993 and 31st Dec,1993 or as amended from time to time. The treated water shall be utilized for plantation purpose. No waste water generated from the process. Treated waste water form STP is used on-land for gardening/ greenbelt development.</td><td>No waste water generated from the process. Treated waste water form STP is used on-land for gardening/ greenbelt development</td></tr>
<tr><td>5</td><td>The overall noise levels in and around the plant area shall be kept well within the plant standards 85 dB(A) by providing noise control measures including acoustic hoods, silencers, enclosures etc.on all sources of noise generation.</td><td>The overall noise levels in and around the plant area is well within the standards. The following measures are adopted for control on noise:
1. All major industrial fans are fitted with silencers.
2. DG sets are provided with acoustic enclosures & installed in enclosed rooms.
3. Compressors are installed within enclosed rooms
4. Speed limit restrictions for vehicles within plant premises
Average values of ambient noise levels for the period 01.04.2022 to 30.09.2022 are as under:
<table><tr><td>#</td><td>Location</td><td>Noise levels dBA (avg.)</td></tr><tr><td>1</td><td>Near New Security Gate</td><td>65.88</td></tr><tr><td>2</td><td>Near MRSS Building</td><td>68.75</td></tr><tr><td>3</td><td>Near Old Security Gate</td><td>67.00</td></tr><tr><td>4</td><td>Near Colony</td><td>54.00</td></tr></table></td></tr>
<tr><td>6</td><td>Occupational health surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.</td><td>Occupational health surveillance of the workers is being done on regular basis and records maintained as per the Factory Act. For this purpose, we have set up a dispensary inside the factory premises with qualified doctors, paramedical staff and all emergency arrangements including ambulance. In addition, the company, as part of its CSR programme, has also</td></tr>
</table>

		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. Records of periodic health checkups are maintained at the health centre.
7	The company shall develop Rainwater harvesting structures to harvest the rain water for utilization in the lean season besides recharge the ground water table.	Please refer point No. 12, Sp. Conditions.
8	The project proponent shall also comply with all the environmental 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 ,educations programmes ,drinking water supply and health care etc.	We are complying with all environmental protection measures and safeguards recommended in their EIA/EMP report. Also our company has undertaken various socio-economic development activities in the surrounding villages. The key areas of community/ socio economic development are as follows: 1) Improving Living conditions, a). Agri Business b). Heath and Nutrition c). War on Covid d). Water 2) Promoting Social development, a). Skills b). Education 3) Addressing Environmental issues, a). Environment 4) Swachcha Bharat Abhiyan a) Sanitation. We have implemented various schemes under the above heads to achieve the CSR objectives.
9	The requisite funds shall be earmarked towards capital cost and recurring cost/annum for environmental pollution control measures to implement the conditions stipulated by the MOEF 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 Banglore. The funds so provided shall not be diverted for any other purpose.	Agreed and implementing
10	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila-Parishad /Municipal Corporation, Urban Local Body and the local NGO, if any, from whom suggestions/representations, if any, were received while processing of the proposal. The clearance letter shall be put on the	A copy of clearance letter had been sent to all the concerned. We have also put the clearance letter on the website of the company

	web site of the company by the proponent.	
11	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitoring data on their website and shall update the same periodically. It shall simultaneously be sent to the regional office of MOEF&CC at Chennai. The respective zonal office of CPCB and SPCB. The criteria pollutant levels namely,PM_{10} ,SO_2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the gate of the company in the public domain.	Status of compliance and monitored data are regularly uploaded on the company's website (www.jswcement.in) and reports are being sent to the regional Office of the MoEF&CC at Chennai and the respective Zonal Office of CPCB and monitored data are being displayed through electronic display board at the main gate of the company in the public domain
12	The project proponent shall also submit six monthly report on the status of the compliance of the stipulated environmental conditions including results of the monitored data to the regional office of MOEF, the respective zonal office of CPCB and SPCB.	We are regularly submitting the six-monthly compliance reports and Last six monthly compliance report submitted on 27.05.2022 vide letter no: JSWCL-NDL/MOEF&CC-CHENNAI/F-02/21-22. ambient air quality monitoring data. We are also uploading our six-monthly compliance reports in the company's website, www.jsw.in.
13	The Environmental statement for each finical year ending 31 st March in Form-V as is mandated to be submitted by the project proponent to the concerned state PCB	We are regularly submitting the environmental statement in Form-V to the APPCB, and Copy of the Environment Statement is also uploaded on the company website (www.jsw.in).
14	The project proponent shall inform the public that the project has been accorded environmental clearance by Ministry and copies of the clearance letter are available with SPCB and may also be seen at Website of the MOEF 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 regional office at Chennai .	We have already advertised in two local newspapers (Ennadu and Deccan Chronicle dated 14.03.2016) widely circulated in the region and copies of the same had been forwarded to the regional office, MoEF.

15	The project authorities shall inform the regional office as well as the ministry date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	Not applicable as it was an expansion project without any capital investment.
16	The ministry may revoke or suspend the clearance if implementation of any of the above conditions is not satisfactory.	Noted and agreed.
17	The ministry reserves the right to stipulate additional conditions if found necessary. The company in a time bound manner shall implement these conditions.	Noted and agreed.
18	The above conditions shall be enforced, interalia, under the provisions of the Water (Prevention and Control of pollution) Act, 1974, The Air (Prevent5ion & Control of pollution) Act 1981 and The Environmental Protection Act, 1986, Hazardous Waste (management, handling and transboundary) Rules, 2008 and Public (Insurance) Liability Act, 1991 along with their amendments and Rules	Noted and agreed.

ENVIRONMENT CLEARNACE COMPLIANCE FOR CLINKER:2.5 to 3.4 MTPA JSW CEMENT PLANT

NAME OF THE PROJECT: JSW CEMENT LTD, Bilakalagudur (Village), Gadivemula (Mandal) dist. Nandyal (A.P.)
MOEF LETTER NO. & DATE: J-11011/889/2007-IA-II (I) Dt:26-09-2022

Sl no	EC Condition	Compliance Status
i	The PP shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented.	Noted and all the safeguards and recommendations of the EIA/ EMP will be implemented in a time bound manner as committed in the EMP
ii	The PP shall comply to the conditions stipulated by Water Resource Department, Govt. of A.P. while conveying the NOC for the instant expansion project vide their letter No. E/KCC/NDL/TW/JTO-1/F-1031 dated 26.08.2022.	Noted and follow all the conditions mentioned in NOC letter
iii	The project proponent shall utilize modern technologies for capturing of carbon emitted and shall also develop carbon sink/carbon sequestration resources capable of capturing more than emitted. The implementation report shall be submitted to the IRO, MoEF&CC in this regard.	Modern technologies adopted by JSW Cement for carbon sequestration and reduction in carbon emission: 1. Deployed 5 nos of EV vehicles for material transportation 2. Installed 5 MW solar power plant in the premises 3. 12.2 MW WHRS is planned to be installed 4. Planned to plant additional 60000 trees in the plant premises which will help in carbon sequestration In addition, we are in the process of building partnership with external agencies for CCU project.
iv	The activities and the action plan proposed by the project proponent to address the issues raised during public hearing and socio-economic issues in the study area shall be completed as per the schedule presented before the Committee and as described in the EIA report in letter and spirit.	Noted. All the commitments made during the PH shall be implemented as per schedule prescribed in the EIA report.
v	An irrigation canal exists within the project site. A robust Drainage Conservation scheme to protect the natural drainage and its flow parameters; along with Soil conservation scheme and multiple Erosion control measures shall be implemented.	The following measures are proposed/ implemented to protect the canal a. the entire plant activities are mainly covered in 91 Ha area which is provided with a compound wall. Plant activity area of 91 Ha is developed with full-fledged storm water network system. The storm water collected is routed through the storm water network and is routed to mine pit for storage. No water from plant activity area drains beyond the compound wall into the canal. b. No plant activities are proposed near to canal.

		c. Deep-rooted grasses that establish quickly, such as tall fescue grasses will be planted on the canal slopes in consultation with state irrigation deptt. No trees are proposed in this zone as the roots may cause adverse impact on the canal structure d. Beyond 50 m from the canal, dense plantation all along the canal covering an area having width of 20 m is planned to be done..
vi	The PP shall explore the possibility of constructing a wall parallel to the canal for its mitigation/preservation	Possibilities of constructing a parallel wall/ embankment to canal shall be explored in consultation with state irrigation deptt. All the conditions stipulated in the NOC vide letter no : EE/KCC/NDL/TW/JTO-1/F-1031M Dt: 26.08.2022 issued by the Water Resource Deptt., Govt of AP shall be strictly complied.
vii	The Bilakalagudur lies at about 1.2 km in the Western direction of the plant. Environmental safeguards/mitigation measures, as committed by the PP, shall be implemented	For protection of Bilakalagudur, a thick greenbelt in 120 M width has already been developed in the western direction of the plant. The same shall be maintained and in addition, an additional greenbelt in approx.. 7.5 Ha shall also be developed in the Western direction of the plant.
viii	The Efforts shall be made to achieve power consumption of 70 units/tone of Portland- Pozzolona cement (PPC) and 95 units/tone of cement for Ordinary Portland Cement and thermal energy consumption of 670 kcal/Kg of Clinker.	Plant upgradation/ modernization is under process. New technology will ensure reduction in thermal and electrical energy consumption. Efforts shall be made to achieve the stated levels of energy consumption.
ix	Overhead belt conveyor for transportation of Limestone from the mines to the plant site shall be established in a time frame of three years from the date of issue of Environment Clearance after obtaining requisite statutory permissions from the concerned competent authority. Thereafter, road transportation of limestone from the mines to the plant site is not permitted	Both the cement plant and mine are adjacent to each other. Crusher is installed inside cement plant area adjacent to the boundary of the mine lease area. Transportation within mine lease and from mine to crusher (max. distance 1.5 km) is done through dumpers and from crusher to plant, it is conveyed through belt conveyor.
X	Three tier Green Belt shall be developed in a time frame of one year covering at least 33% of the total project area with native species all along the periphery of the project site of adequate width and tree density shall not be less than 2500 per ha. Survival rate of green belt developed shall be monitored on periodic basis to ensure that damaged plants are replaced with new plants in the subsequent years. Thick greenbelt of about 120 m width been developed all along the western side of the active plant area facing Bilakalagudur village shall be maintained. Additional greenbelt in 7.37 Ha shall be developed towards the Western side of the plant boundary as committed.	Greenbelt is already developed in >33% of the plant area. However, in order to increase the density of plantation, we are carrying out gap plantation in the existing greenbelt during f.y. 2022-23 so as to achieve tree density of 2500 trees / Ha. Thick greenbelt of 120 m width towards Bilakalagudur (western direction) shall be maintained. Additional greenbelt in 7.37 Ha shall also be planted along western boundary in next 2 years.

	Compliance status in this regard, shall be submitted to concerned Regional Office of the MoEF&CC.	
xi	The project proponent shall develop a robust monitoring plan for greenbelt development Wildlife Management.	We have deposited INR 270.34 Lakhs with the state forest deptt. for implementation of Wildlife conservation plan as approved by the PCCF, AP. WLCP will be implemented by the state forest deptt. JSWCL will coordinate with Forest Deptt and track progress on implementation.
xii	Post expansion, the total fresh water requirement will be 2160 m3/day. Approximately 1500 m3/day will be sourced from the mine pit harvested water and the balance will be drawn through bore wells with permission from the Competent Authority. PP shall make efforts for gradual phasing out of ground water consumption and switching to alternative source of water	Approx. 1500 M3/day of water will be sourced from mine pit and the total requirement will be restricted to 2160 M3/day. Gradually, efforts shall be made to phase out complete extraction of groundwater.
xiii	Rain water harvesting system more than the annual water consumption has to be implemented	Complied. JSW Cement's water consumption in the cement plant is 2160 m3/day with annual water consumption of 788400 m3/annum (7.88 Lakh m3/annum). Rain water structures are provided to capture 15.64 Lakh m3/annum at 705 mm of annual average rainfall. Rain water harvesting is 198 % compared to water consumption of 7.88 Lakhs m3/annum.
xiv	All stockyards shall be having impervious flooring and shall be equipped with water spray system for dust suppression. Stock yards shall also have garland drains to trap the run off material.	All stockyards have impervious flooring. Water spray systems installed at limestone and coal stockpiles. Garland drains shall be provided to the stockyards for trapping runoff material.
xv	Slip roads shall be provided at the gates and along crossings on main roads.	Slip roads are provided
xvi	All internal and connecting road to the Highway shall be black topped/ concreted with suitable load in term of Million Standard Axle (MSA) as per IRC guidelines.	All roads are concreated inside the plant.
xvii	Performance monitoring of pollution control equipment shall be taken up yearly and compliance status in this regard shall be reported to the concerned Regional Office of the MoEF&CC.	Noted and will be complied every year. Budget provision for 2022-23 has already been taken.
xviii	Dioxin and furans shall be monitored twice a year during co-processing of hazardous waste and report shall be submitted to the Regional Office of the MoEF&CC	Complied and attaching the Annexure-1
xix	Project proponent shall develop separate drainage system for storm water and industrial waste water and effectively prevent the pollution of natural waterbody.	Complied and attaching the Annexure-2
xx	Particulate matter emissions from cement mill stacks shall be less than 20 mg/Nm3 and for CPP less than 30 mg/Nm3.	Complied and attaching the Annexure-3
xxi	Air cooled condensers shall be used in the captive power plant in place of water-cooled system.	Noted and will be complied when CPP is installed.
xxii	As committed, entire waste water shall be treated and reused for plantation and dust suppression within the	Complied and attaching the Annexure-3

	premises. Also, STP water shall be reused in plantation with a view to conserve fresh water.	
xxiii	As committed, 5 villages, namely Bilakalagudur, Bujunur, Gadivemula, Grandhivemula and Pesarvai shall be adopted and will be developed into model villages in next 10 years.	Noted and the same shall be implemented in 10 year's duration
xxiv	Hot air dryer shall not be installed. Flue gases of preheater shall be used to dry the slag/bottom ash.	No new hot air generator will be installed.
xxv	De SOx system shall be provided dry type. NOx level shall be maintained below 600 mg/Nm3 by using best available technology.	Kiln feed is rich in CaO which absorbs more than 80% of SO2 to convert into CaSO4 which leaves the kiln with clinker. Therefore the kiln feed itself act as a de-SOx system.
xxvi	Petcoke dosing shall be controlled automatically to control SO2 emission from chimney within the prescribed limits.	Complied
xxvii	The PP shall implement a project specific AQMP (Air Quality Management Plan) with Best practices; shall determine priority pollutants. Pollution prevention approaches to reduce, eliminate, prevent pollution at its source, should be considered, like (but not limited to) are to use less toxic raw materials or fuels, use a less-polluting industrial process, and to improve the efficiency of the process.	Priority pollutants have been identified and a project specific AQMP has been prepared and included in the EMP. The same is under implementation. Modern technology and best practices of pollution prevention and control have been adopted and implemented in the expansion project. Examples of pollution prevention include coprocessing of plastic and hazardous waste in the kiln, maximizing production of blended cement etc.
xxviii	The PP shall develop a control strategy and mitigation plan that incorporates the pollution control measures. The Clean Air practices shall be adopted like mechanical collectors, wet scrubbers, fabric filters (baghouses), electrostatic precipitators, combustion systems (thermal oxidizers), condensers, absorbers, adsorbers, and biological degradation.	Complied. Clean air practices: High efficiency bag houses installed. We scrubbers: Not applicable Fabric filters: Provided with all dust extraction systems Combustion systems: High temp in kiln oxidizes all the gaseous pollutants in the kiln. Biological degradation: STP
Xxix	Sufficient numbers of additional truck mounted Fog/Mist water cannons shall be operated regularly inside the project premises and also in the surrounding villages to arrest suspended dust in the atmosphere. The PP to this affect shall implement a time bound Action Plan, and the compliance shall be submitted to IRO, MoEFCC	Noted and will be implemented in phased manner
Xxx	As the Kundur River is near to the mines of the project, the PP should prepare and implement a River conservation plan; and an adequate robust Erosion control and Soil Conservation Program (like Storm water diversion; Storm water drains with catch pits to trap run off material; Garland drains; Retention walls; Settling Ponds; Wheel washing arrangement; Silt removal from settling ponds & utilization; Greening & Paving; Excavated soil preservation for landscaping) is to be formulated and implemented by the PP.	Partly complied such as storm drains, garland drains with catch pits, settling ponds etc. are already in place in the mining area. Remaining measures will be implemented in due course.
Xxxi	The TDS levels are reported to be high, nearer to the threshold limit and there is also a public hearing grievance relating to crop damage and low yield of crop produce due to water discharge from the plant. The PP	Measures for treatment of waste water will be strengthened and strict zero discharge from the plant premises will be ensured. Company will investigate and evaluate the

	shall ensure strict Zero Discharge from the plant and shall support the farmers whose crops have been damaged as per the PH conducted.	damage reportedly caused to the farmers and will appropriately support the farmers if the damaged is attributed to any kind of pollution from the cement plant.
xxxii	There is a government Canal passing through the project area. PP shall ensure all erosion and soil conservation methods and original water flow characters. PP shall ensure that no hazardous, waste water or runoff (including storm runoff) from the plant area shall enter into the canal. The PP shall also maintain the berms on either side of the canal and plant grasses and herbs/shrubs all along the canal on either sides. Further the PP shall also construct a wall parallel to the canal as an additional protection leaving sufficient gap from the canal berms and plantation belt.	a) the entire plant activities are mainly covered in 91 Ha area which is provided with a compound wall. Plant activity area of 91 Ha is developed with full-fledged storm water network system. The storm water collected is routed through the storm water network and is routed to mine pit for storage. No water from plant activity area drains beyond the compound wall into the canal. b) No plant activities are proposed near to canal. The following measures are proposed/ implemented to protect the canal 1 Deep-rooted grasses that establish quickly, such as tall fescue grasses will be planted on the canal slopes in consultation with state irrigation deptt. No trees are proposed in this zone as the roots may cause adverse impact on the canal structure. 2 Beyond 50 m from the canal, dense plantation all along the canal covering an area having width of 20 m is planned to be done. 3 Possibilities of constructing a parallel wall/ embankment to canal shall be explored in consultation with state irrigation deptt. All the conditions stipulated in the NOC vide letter no EE/KCC/NDL/TW/JTO-1/F-1031M Dt: 26.08.2022 issued by the Water Resource Deptt., Govt of AP shall be strictly complied.
xxxiii	As reported by the PP the project area is 263.05 hectares and the plant area is only in 96.52 hectares. PP shall explore the possibility of returning the excess land, especially the area through which the Government's canal is passing through back to the government/ original land owners.	Noted and possibilities shall be explored for returning the excess land to the govt./ original land owners
xxxiv	RO water treatment plants/units and solar lighting committed by the PP to the villages as per the Public hearing shall be provided in the 1st year itself and their maintenance shall be done by the PP in the following years	RO water treatment and solar lighting already provided in nearby villages. However, as committed during the PH, additional RO water plants and solar lighting in the nearby villages will be provided within the current financial year.

xxxv	A proper action plan must be implemented to dispose of the electronic waste generated in the industry.	Noted and we agree to initiate required actions within the current f.y.
xxxvi	All the recommendations made in the risk assessment report shall be implemented and compliance status in this regard shall be furnished to the Regional Office of the MoEF&CC along with the six monthly compliance report.	Complied. Compliance report with respect to actions taken to mitigate the risks are enclosed as **Annexure-5**
xxxvii	The recommendations of the approved Site-Specific Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report to the concerned Regional Office of the MoEF&CC.	We have already deposited INR 2.27 Crore with the state forest deptt. for implementation of Wildlife conservation plan as approved by the PCCF, AP. WLCP will be implemented by the state forest deptt. JSWCL will coordinate with Forest Deptt and track progress on implementation. We shall submit yearwise implementation status to the R.O., MoEF&CC in a timely manner.

B. General conditions:

I. Statutory compliance:

1	The Environment Clearance (EC) granted to the project/ activity is strictly under the provisions of the EIA Notification, 2006 and its amendments issued from time to time. It does not tantamount/ construe to approvals/ consent/ permissions etc., required to be obtained or standards/conditions to be followed under any other Acts/Rules/Subordinate legislations, etc., as may be applicable to the project.	Noted and agreed

II. Air quality monitoring and preservation

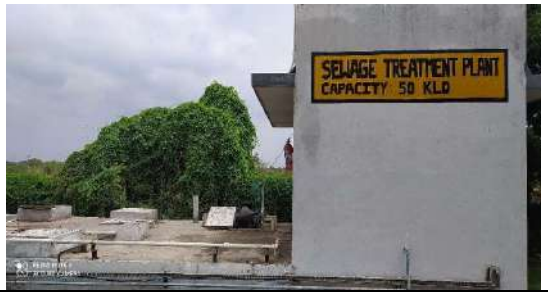
i	The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules 1986 (G.S.R. No. 612 (E) dated 25th S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.	We have already installed Six nos of online continuous stacks monitoring for the major stacks and Sox and NOx analyzers in the kiln stack to monitor PM, SOx and NOx as per latest MoEF notification dated 25.08.2014 and connected SPCB and CPCB. Additional online analysers in the proposed expansion project will also be installed, connected to SPCB & CPCB and will be calibrated as per supplier specifications.
ii	The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through labs recognised under Environment (Protection) Act, 1986.	Fugitive emissions are monitored in all dust prone areas at least once in a quarter through NABL accredited labs. Monitoring results of fugitive emissions monitored during the last quarter are given below:

<table>
<tr><td></td><td></td><td>
<table>
<tr><th>Sl. No.</th><th>Location</th><th>Dust concentration (mg/Nm^3)</th></tr>
<tr><td>1</td><td>Packing plant</td><td>0.51</td></tr>
<tr><td>2</td><td>Coal mill Hopper</td><td>0.34</td></tr>
<tr><td>3</td><td>Raw mill hopper</td><td>0.42</td></tr>
<tr><td>4</td><td>Crusher Hopper</td><td>0.41</td></tr>
</table>
</td></tr>
<tr><td>iii</td><td>The project proponent shall install system carryout to Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM10 and PM2.5 in reference to PM emission, and SO2 and NOx in reference to SO2 and NOx emissions) within and outside the plant area at least at four locations (one within and three outside the plant area at an angle of 120°each), covering upwind and downwind directions.</td><td>3 nos of CAAQMS are already installed at the periphery of the plant. In addition, 4 nos of AAQ stations for manual monitoring have also been provided at the plant periphery. AAQ monitoring results for the period 01.04.2022 to 30.09.2022 are tabulated below:
<table>
<tr><th>Location</th><th>PM-10 µgm/m3</th><th>PM 2.5 µgm/m3</th><th>So2 µgm/m3</th><th>Nox µgm/m3</th></tr>
<tr><td>New Security gate</td><td>64.00</td><td>39.00</td><td>11.00</td><td>12.80</td></tr>
<tr><td>MRSS Bld</td><td>70.00</td><td>49.00</td><td>10.02</td><td>12.00</td></tr>
<tr><td>Old Security gate</td><td>57.00</td><td>31.00</td><td>11.00</td><td>12.25</td></tr>
<tr><td>Colony</td><td>50.00</td><td>35.00</td><td>10.70</td><td>12.04</td></tr>
</table>
</td></tr>
<tr><td>iv</td><td>The project proponent shall submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring and manual monitoring of air quality /fugitive emissions to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.</td><td>Noted and we are regularly submitting the CEMS and Air Quality monitoring reports to the Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.</td></tr>
<tr><td>v</td><td>Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.</td><td>Air Pollution Control (APC) system and closed conveyer systems are provided for all the dust generating points including fugitive dust from all vulnerable sources, to minimize the prescribed stack emission and fugitive emission standards.</td></tr>
<tr><td>vi</td><td>The project proponent shall provide leakage detection and mechanised bag cleaning facilities for better maintenance of bags.</td><td>Leakage detection and mechanised bag cleaning facilities are provided for all the bag filters.</td></tr>
<tr><td>vii</td><td>Pollution control system in the cement plant shall be provided as per the CREP Guidelines of CPCB.</td><td>All the pollution control systems are designed keeping in view of CREP guidelines.</td></tr>
<tr><td>viii</td><td>Sufficient number of mobile or stationery vacuum cleaners shall be provided to clean plant roads, shop floors, roofs, regularly.</td><td>Truck mounted mobile vacuum cleaner are available in the plant to clean the plant roads, shop floors etc. on regular basis. In addition, manually operated dust cleaning systems are also deployed in packing plant area.</td></tr>
<tr><td>ix</td><td>Ensure covered transportation and conveying of raw material to</td><td>All the materials loaded trucks are covered with tarpaulins to avoid the spillage and dust generation.</td></tr>
</table>

	prevent spillage and dust generation; Use closed bulkers for carrying fly ash.	
x	Provide wind shelter fence and chemical spraying on the raw material stock piles.	Except limestone stockpile, all the raw material are stored in covered shed. Regular water sprinkling is also done around the raw material storage areas. Wind shelter fence and chemical spraying on raw material will be ensured in due course.
xi	Provide Low NOX burners as primary measures and SCR /NSCR technologies as secondary measure to control NOX emissions	For NOx control, we have provided low NOx burners as well as Low NOX Calciner and the NOx values are always maintained below the permissible limits. In view of the above, SNCR is presently not required.
xii	Have separate truck parking area and monitor vehicular emissions at regular interval.	Separate truck parking area provided for all the incoming and loaded trucks
xiii	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	Provided closed conveyers and bag filters at all transfer points to avoid the spillage dust to the environment. In addition, the company has constructed a 30 km long concrete road from plant to Nandyal for transportation of material, thus minimizing the impact of dust pollution on the surroundings.
xiv	Ventilation system shall be designed for adequate air changes as per ACGIH document for all tunnels, motor houses, cement bagging plants.	Complied

III. Water quality monitoring and preservation

i	The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R. No. 612 (E) dated 25thAugust, 2014 (Cement) and subsequent amendment dated 9thMay, 2016 (Cement) and 10th May, 2016 (in case of Co-processing Cement) as amended from time to time; S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time) and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.	Online effluent monitoring system is not applicable for cement plants.

ii	The project proponent shall regularly monitor ground water quality at least twice a year (preand post-monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognized under Environment (Protection) Act, 1986 and NABL accredited laboratories.	We are regularly monitoring the ground water levels through two numbers of piezometers through NABL accredited labs .
iii	Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.	Two STPs each of 50 m3/day have been installed to treat domestic wastewater 
iv	Garland drains and collection pits shall be provided 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.	Noted and agreed to comply in due course.
v	Water meters shall be provided at the inlet to all unit processes in the cement plant.	Digital Water flow meters are provided at the inlet to all processes
vi	The project proponent shall make efforts to minimize water consumption in the cement plant complex by segregation of used water, practicing cascade use and by recycling treated water.	Treated water is properly recycled and reused in other processes such as gardening and dust suppression.

IV. Noise monitoring and prevention

<table>
<tr><td>i</td><td>Noise quality shall be monitored as per the prescribed Noise Pollution (Regulation and Control) Rules, 2000 and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.</td><td>Noise levels are regularly monitored and reported along with six monthly compliance report.</td></tr>
<tr><td>ii</td><td>The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time.</td><td>Ambient noise levels are maintained well within the prescribed limits. The ambient noise levels for the period April to Sep 2are as below.
<table>
<tr><th>#</th><th>Location</th><th>Nose levels dBA (avg.)
Day time</th><th>Night time</th></tr>
<tr><td>1</td><td>Near New Security gate</td><td>65.88</td><td>54.10</td></tr>
</table>
</td></tr>
</table>

		2	Near MRSS Building	68.75	63.55
		3	Near Old Security gate	67.00	57.0
		4	Near Colony	54.00	50.00

V. Energy Conservation measures

i	Waste heat recovery system shall be provided for kiln and cooler.	12.2 MW WHRR is planned to be installed for kiln and cooler
ii	The project proponent makes efforts to achieve power consumption less than 65 units/ton for Portland Pozzolona Cement (PPC) and 85 units/ton for Ordinary Portland Cement (OPC) production and thermal energy consumption of 670 Kcal/Kg of clinker	Power consumption for Ordinary Portland Cement (OPC) from April to September2022 was **84.94 kWh/t cement** and Thermal energy consumption was: 751.15 kcal/Kg of Clinke. We are planning for cooler modification to further reduce the thermal energy consumption.
iii	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.	Solar power generation systems are provided inside plant buildings like of CCR ,Packing Plant, WTP Buildings, 5.5 MW solar power plant and solar Street lights at internal roads and parking locations.
iv	Provide the project proponent for LED lights in their offices and residential areas.	LED lights are provided in all office buildings l6ocations.

VI. Waste management

i	Used refractories shall be recycled as far as possible.	Complied. Used refractories are sold to vendors for recycling.

VII. Green Belt

i	The project proponent shall prepare GHG emissions inventory for the plant and shall submit the program for reduction of the same including carbon sequestration by trees in the plant premises.	GHG emission data for the year 2020-21 is enclosed as **Annexure-** JSWCL plans to further reduce CO_2 emission by implementing the following measures: ▪ Increasing use of alternate fuels to the extent of >15% Thermal Substitution rate (TSR) ▪ Reduction in sp. thermal energy (~25 Kcal/kg clinker) through cooler upgradation, cyclone modification and use of steel slag in Raw meal ▪ Reduction of clinker factor (~7%) by increasing production of blended cement ▪ Installation of 12.2 MW Waste Heat Recovery Power Plant ▪ Enhancing the existing capacity of Solar power plant from 5.5 MW to 15 MW in next 3 years ▪ Use of Electrical Vehicles (owned/ leased) – 5 Nos, each of 55 ton capacity for transportation of slag from Vijayanagar, Bellary to Nandyal (approx. 300 km)

		With the implementation of above measures, we will reduce our net CO_2 emission by 12.4 % in next 3 years. Total CO_2 savings to be achieved = **193651** t per annum **Carbon Sequestration:** • **Carbon sequestration through plantation** • As of now we have planted 86568 nos of plants which can potentially sequester ~31 T of CO_2 per annum (considering an average of 0.3 kg CO_2 sequestration per year per plant) • We are in discussion with a Hosur based company for mass plantation of Bheema Bamboo species which has very high carbon sequestration potential as compared to other species. • In future, we plan to plant approx. 112500 nos of plants which will further help in Carbon sequestration. • One of the criteria for species selection for greenbelt will be based on the carbon sequestration potential. **Technological Carbon Sequestration** • Exploring to partner with a London based agency to work on Carbon Capture, Utilization and Storage (CCUS project) • Through GCCA, we are also in discussion with few other companies who are working on CCUS
ii	Project proponent shall submit a study report within six months on Decarbonisation program, which would essentially consist of company's carbon emissions, carbon budgeting/ balancing, carbon sequestration activities and carbon offsetting strategies. Further, the report shall also contain time bound action plan to reduce its carbon intensity of its operations and supply chains, energy transition pathway from fossil fuels to Renewable energy etc. All these activities/ assessments should be measurable and monitorable with defined time frames.	Decarbonaization program consisting of carbon emissions, carbon budgeting, carbon offsetting and carbon sequestration strategies is detailed in the above point under Greenbelt. The above program also details a 3 year action plan with strategies to reduce our carbon intensity by approx. 12%.

VIII. Public hearing and Human health issues

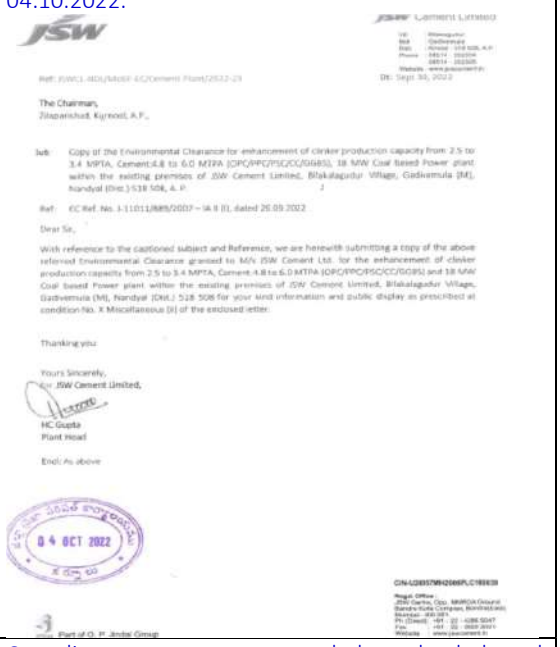
i	Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented	Complied
	The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms.	Noted. Heat stress analysis for the workmen working in high temp zones shall be carried out before 31-03-2023. We have already provided appropriate PPEs to the persons working in high temp zones. However, PPEs will be ensured based on the study recommendations
	Occupational health surveillance of the workers shall be done on a regular basis and records maintained.	Complied

IX. Environment Management

i	The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 30/09/2020. As part of Corporate Environment Responsibility (CER) activity, company shall adopt villages based on the socio-economic survey and undertake community developmental activities in consultation with the village Panchayat and the District Administration as committed.	As part of CER, we have already initiated the socio-economic survey of nearby areas and based on the survey results, we will identify and adopt the village for community development in consultation with village Panchayat and District Administration.
ii	The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/ violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholder's / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.	Environmental policy, as stipulated by MoEF&CC is laid down and approved by the board of directors dt : 12.01.2014. Copy of the Board Resolution is enclosed as **Annexure…**.....
iii	A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.	Separate environment cell both at the project and corporate level with qualified personnel has been set up and the cell directly report to the head of the organization.

X. Miscellaneous

i	The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in EC Identification No. - EC22A009AP170810 File No. - F.No. J-11011/889/2007-IA-II-(I) Date of Issue EC - 26/09/2022 Page 9 of 14 the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.	Environmental Clearance orders are published in the **Sakshi Paper** Telugu and English Newspapers **The Hans India** on 29.9.2022. Copies of the newspaper advertisements are enclosed as **Annexure.**
ii	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.	Copies of the EC have been submitted to the Heads of local bodies of Panchayats on 30.09.2022, Municipal Commissioner 0n 06.10.2022, MRO 04.10.2022, Zila Parishad on 04.10.2022, Environmental engineer on

		04.10.2022.  JSW The Chairman, Zilaparishad, Kurnool, A.P., Sub: Copy of the Environmental Clearance for enhancement of clinker production capacity from 2.5 to 3.4 MPTA, Cement 4.8 to 6.0 MTPA (OPC/PPC/PSC/CC/GGBS), 18 MW Coal based Power plant within the existing premises of JSW Cement Limited, Bilakalagudur Village, Gadivemula (M), Nandyal (Dist.) 518 508, A. P. Ref: EC Ref. No. J-11011/885/2007 – IA II (I), dated 26.09.2022 Dear Sir, With reference to the captioned subject and Reference, we are herewith submitting a copy of the above referred Environmental Clearance granted to M/s JSW Cement Ltd. for the enhancement of clinker production capacity from 2.5 to 3.4 MPTA, Cement 4.8 to 6.0 MTPA (OPC/PPC/PSC/CC/GGBS) and 18 MW Coal based Power plant within the existing premises of JSW Cement Limited, Bilakalagudur Village, Gadivemula (M), Nandyal (Dist.) 518 508 for your kind information and public display as prescribed at condition No. X Miscellaneous (ii) of the enclosed letter. Thanking you Yours Sincerely, For JSW Cement Limited, HC Gupta Plant Head Encl: As above 04 OCT 2022 Part of O. P. Jindal Group
iii	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis	Compliance reports are regularly uploaded and updated on 6 monthly basis on the Company's website.
iv	The project proponent shall 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.	Criteria pollutants namely PM10, PM 2.5, SOx, NOx are monitored at the prescribed intervals and the data displayed at the main factory gate for public disclosure. The monitored data are also uploaded on company website along with 6 monthly compliance reports.
v	The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.	Noted and uploading of 6 monthly compliance report on MoEF&CC website will be complied w.e.f. next 6 monthly compliance report, i.e. before 1st Dec, 2022.
vi	The project proponent shall 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.	Environment Statement of each financial year is regularly submitted to SPCB before 30th Sept every year and the same is also uploaded on the Company's website. Environmental statement (Form-V) for the year 2021-22 was submitted to SPCB and RO, MoEF&CC on 30.09.2022
vii	The project proponent 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, commencing the land development work and start of production operation by the project.	Date of financial closure Date of final approval: Commencement of land development work: yet to start Start of operation: Will be informed after start of commercial operations of expansion project
viii	The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their	Noted and agreed to comply within the stipulated time frame.

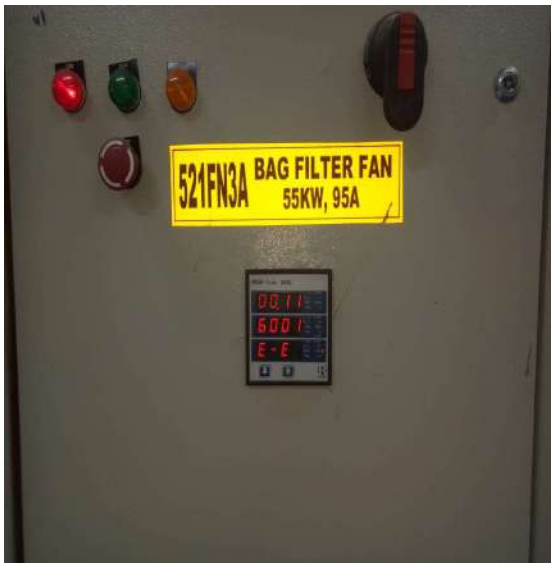
	presentation to the Expert Appraisal Committee.	
ix	The PP shall put all the environment related expenditure, expenditure related to Action Plan on the PH issues, and other commitments made in the EIA/EMP Report etc. in the company web site for the information to public/public domain. The PP shall also put the information on the left over funds allocated to EMP and PH as committed in the earlier ECs and shall be carried out and spent in next three years, in the company web site for the information to public/public domain.	Noted and agreed.
X	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)	Noted and agreed.
Xi	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.	Noted
Xii	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.	Noted and agreed to extend full support to the officers of the Regional office and will furnish all the requisite information/ data/ reports etc.

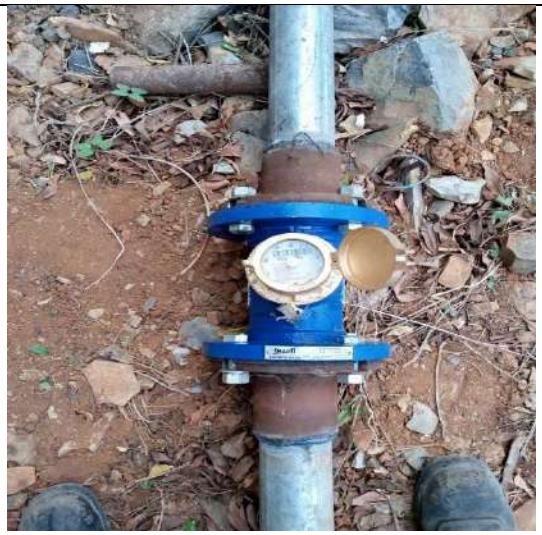
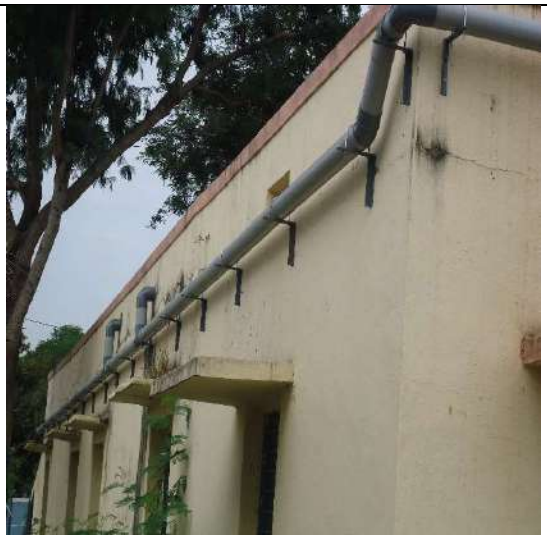
7	The Ministry reserves the right to stipulate additional conditions, if found necessary at subsequent stages and the project proponent shall implement all the said conditions in a time bound manner. The Ministry may revoke or suspend the environmental clearance, if implementation of any of the above conditions is not found satisfactory.	Noted and agreed.
8	Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.	Noted
9	Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	Noted
10	The above conditions shall be enforced, *inter-alia* under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991	Noted and agreed.

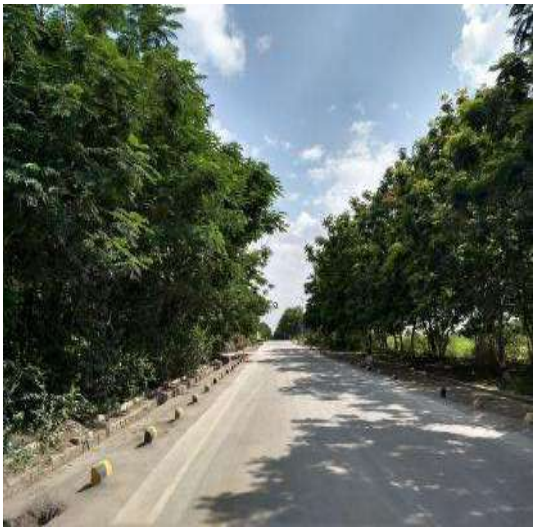
	along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.	
11	This issues with the approval of the Competent Authority.	Noted.

Photos of M/s.JSW CEMENT LTD, indicating present status, deviations:

		
Description: Coal Shed		Description: Plant Internal CC Roads
		
Description: Green Belt		Description: Clinker Silo
		

Description: Online CEMS		Description: CAAQMS
		
Description: HW Co-processing shed		Description: Energy Meters

 Photo:		
Description: Water Flow Meters		Description: Rain water Harvesting syst.

		
Description: Closed Conveyer Belts		Description: CC Roads and Green Belt

JSW Cement Limited

Vill : Bilalagudur
Mdl : Gadivemula
Dist : Kmool - 518 508, A.P.
Phone : 08514 - 202304
08514 - 202305
Website : www.jswcement.in

Ref: JSWCL/NDL/Env-Reports /2022-23 DT: 15.06.2022

The Environmental Engineer
A.P. Pollution Control Board
Shankar Shopping Complex
Krishna Nagar - Main Road
KURNOOL, AP.

Dear Sir,

Sub: Emission monitoring report for the Kiln stack -*Reg.*
Ref: APPCB/KNL/KNL/124/HO/2019 Dt: 29.07.2019

With reference to the captioned subject and reference, we are herewith enclosing the emission testing report as per the CPCB Guidelines for co-processing of Hazardous waste in respect of CFO conditions.

Please find the reports in order and acknowledge the receipt.

Thanking you,

Yours faithfully,
For JSW Cement Limited

V.Narsimha Reddy
Sr.Manager (Env)
Encl: As above

A.P. Pollution Control Board Kurnool
KURNOOL
Dt: 17/6/22

Report No : EN22050161-01 **Report Date** : 28 May 2022

Customer Name	:	M/s. JSW CEMENT LIMITED.		
Customer Address	:	Village : Bilakalaguduru, Gadivemula Mandal, Kurnool - Andhra Pradesh District - 518508.		
Sample Description	:	Co-Processing Stack Monitoring	Sampling Date	: 12 May 2022
Reference	:	Test Request Form Dated 12.05.2022	Sample Received on	: 13 May 2022
Sample Drawn By	:	Laboratory	Test Started on	: 14 May 2022
Sample Location	:	RABH Kiln Coprocess Stack	Test Completed on	: 28 May 2022
Sample Procedure	:	SMSLA/EN/SOP/046 & IS 11255		
Diameter of Stack (m)	:	5.86 m	Ambient Temperature	: 28°C

TEST RESULTS

Sl.No	PARAMETERS	TEST METHOD	UNIT	RESULTS	EMISSION STANDARDS FOR ROTARY KILN WITH CO-PROCESSING OF WASTES
1	Stack Temperature	IS 11255 (Part 3)	°K	417	NA
2	Volume of the gas discharged	IS 11255 (Part 3)	Nm3/Hr	622934	NA
3	Oxygen as O_2	SMSLA/EN/SOP/046	%	13.5	NA
4	Carbon Dioxide as CO_2	SMSLA/EN/SOP/046	%	16.86	NA
5	Velocity of the flue gas	EPA 1-3	m/s	9.2	NA
6	Sulphur Dioxide as SO_2	IS 11255 (Part 2)	mg/Nm3	12	100 Max.
7	Carbon Monoxide as CO	SMSLA/EN/SOP/046	mg/Nm3	20	NA
8	Oxides of Nitrogen as NOx	SMSLA/EN/SOP/046	mg/Nm3	447	800 Max.
9	Particulate Matter	IS 11255 (Part 1)	mg/Nm3	19.2	30 Max.
10	Total Organic carbon	SMSLA/EN/SOP/47	ppm	3.7	10 Max.
11	Lead as Pb	EPA - 29	mg/Nm3	BLQ(LOQ:0.02)	NA
12	Copper as Cu	EPA - 29	mg/Nm3	BLQ(LOQ:0.00002)	NA

Report No : EN22050161-01 Report Date : 28 May 2022

Sl.No	PARAMETERS	TEST METHOD	UNIT	RESULTS	EMISSION STANDARDS FOR ROTARY KILN WITH CO-PROCESSING OF WASTES
13	Cadmium as Cd	EPA - 29	mg/Nm3	BLQ(LOQ:0.00002)	NA
14	Nickel as Ni	EPA - 29	mg/Nm3	BLQ(LOQ:0.00002)	NA
15	Antimony as Sb	EPA - 29	mg/Nm3	BLQ(LOQ:0.00002)	NA
16	Mercury as Hg	EPA - 29	mg/Nm3	BLQ(LOQ:0.00002)	0.05 Max.
17	Arsenic as As	EPA - 29	mg/Nm3	BLQ(LOQ:0.00002)	NA
18	Total Chromium as Cr	EPA - 29	mg/Nm3	BLQ(LOQ:0.00002)	NA
19	Vanadium as V	EPA - 29	mg/Nm3	BLQ(LOQ:0.00002)	NA
20	Manganese as Mn	EPA - 29	mg/Nm3	BLQ(LOQ:0.00002)	NA
21	Cd+Tl +their Compounds	EPA - 29	mg/Nm3	BLQ(LOQ:0.00002)	0.05 Max.
22	Sb+As+Pb+Cr+Co+Cu+Mn+Ni+V+their compounds	EPA - 29	mg/Nm3	BLQ(LOQ:0.00002)	0.5 Max.
23	Hg and its compounds	EPA - 29	mg/Nm3	BLQ(LOQ:0.00002)	NA
24	Titanium	EPA - 29	mg/m^3	BLQ(LOQ:0.00002)	NA
25	Cobalt as Co	EPA - 29	mg/Nm3	BLQ(LOQ:0.00002)	NA
26	Hydrogen Chloride (HCL)	EPA 26A	mg/m^3	BLQ(LOQ:0.02)	10 Max.
27	Hydrogen Fluoride (HF)	EPA 26A	mg/m^3	BLQ(LOQ:0.02)	1 Max.
28	Thallium as Tl	EPA - 29	mg/Nm3	BLQ (LOQ:0.001)	NA
29	Total Dioxin & Furan	EPA Method 23A	ng TEQ/Nm3	< 0.01	0.1

Report No : EN22050161-01

Report Date : 28 May 2022

TEST RESULTS

Annexure - 1

SAMPLE ANALYSIS RESULTS OF 17 CONGENERS

PARAMETER	UOM	METHOD	RESULTS
1,2,3,4,6,7,8- Heptachlorodibenzo-p- dioxin	ng.TEQ	USEPA 23A/QA.16.4.73	<0.00024
1,2,3,4,7,8- Hexachlorodibenzo-p-dioxin	ng.TEQ	USEPA 23A/QA.16.4.73	<0.0024
1,2,3,7,8,9- Hexachlorodibenzo-p-dioxin	ng.TEQ	USEPA 23A/QA.16.4.73	<0.0024
1,2,3,7,8- Pentachlorodibenzo-p-dioxin	ng.TEQ	USEPA 23A/QA.16.4.73	<0.024
2,3,7,8-Tetrachlorodibenzo- p-dioxin	ng.TEQ	USEPA 23A/QA.16.4.73	<0.005
1,2,3,6,7,8- Hexachlorodibenzo-p-dioxin	ng.TEQ	USEPA 23A/QA.16.4.73	<0.0024
Octachlorodibenzo-p-dioxin	ng.TEQ	USEPA 23A/QA.16.4.73	<0.000015
2,3,4,7,8- Pentachlorodibenzofuran	ng.TEQ	USEPA 23A/QA.16.4.73	<0.0072
1,2,3,4,6,7,8- Heptachlorodibenzofuran	ng.TEQ	USEPA 23A/QA.16.4.73	<0.00024
1,2,3,4,7,8,9- Heptachlorodibenzofuran	ng.TEQ	USEPA 23A/QA.16.4.73	<0.00024
1,2,3,4,7,8- Hexachlorodibenzofuran	ng.TEQ	USEPA 23A/QA.16.4.73	<0.0024
1,2,3,6,7,8- Hexachlorodibenzofuran	ng.TEQ	USEPA 23A/QA.16.4.73	<0.0024
1,2,3,7,8,9- Hexachlorodibenzofuran	ng.TEQ	USEPA 23A/QA.16.4.73	<0.0024
1,2,3,7,8- Pentachlorodibenzofuran	ng.TEQ	USEPA 23A/QA.16.4.73	<0.00072
2,3,4,6,7,8- Hexachlorodibenzofuran	ng.TEQ	USEPA 23A/QA.16.4.73	<0.0024
2,3,7,8- Tetrachlorodibenzofuran	ng.TEQ	USEPA 23A/QA.16.4.73	<0.0005
Octachlorodibenzofuran	ng.TEQ	USEPA 23A/QA.16.4.73	<0.000015

Report No : EN22050161-01 Report Date : 28 May 2022

TEST RESULTS

S.NO	PARAMETER	TEST METHOD	UNIT	RESULTS
Polycyclic Aromatic Hydrocarbons				
30	PAHs	SMSLA/GM/SOP/06	mg/m³	BLQ(LOQ:0.1)
Trace Metal Elements				
31	Hg and its compounds	EPA - 29	µg/m³	BLQ(LOQ:0.02)
Volatile Organic Compounds				
32	1,1,1,2-Tetrachloroethane	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
33	1,1,1-Trichloroethane	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
34	1,1,2,2-Tetrachloroethane	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
35	1,1,2-Trichloroethane	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
36	1,1-Dichloro-1 propene	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
37	1,1-Dichloroethane	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
38	1,1-Dichloroethylene	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
39	1,2 -Dichloroethane	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
40	1,2,3-Trichlorobenzene	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
41	1,2,3-Trichloropropane	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
42	1,2,4-Trichlorobenzene	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
43	1,2,4-Trimethylbenzene	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
44	1,2-Dibromo-3-chloropropane	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
45	1,2-Dibromoethane	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:.1)
46	1,2-Dichlorobenzene	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
47	1,2-Dichloropropane	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
48	1,3,5-Trimethylbenzene	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
49	1,3-Dichlorobenzene	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
50	1,3-Dichloropropane	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
51	1,4- Dichlorobenzene	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
52	2,2-Dichloropropane	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
53	2-Chlorotoluene	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
54	4-Chlorotoluene	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
55	Benzene	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
56	Bromo chloromethane	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
57	Bromo dichloromethane	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
58	Bromobenzene	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
59	Bromoform	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
60	Carbon tetrachloride	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
61	Chlorobenzene	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
62	Chloroform	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
63	Cis-1,2-Dichloroethene	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)

Report No : EN22050161-01 **Report Date :** 28 May 2022

TEST RESULTS

S.NO	PARAMETER	TEST METHOD	UNIT	RESULTS
64	Cis-1,3-Dichloropropene	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
65	Dibromochloromethane	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
66	Dibromomethane	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
67	Dichloromethane	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
68	Ethylbenzene	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
69	Hexachloro-1,3-butadiene	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
70	Isopropylbenzene	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
71	m-Xylene	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
72	n-Butylbenzene	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
73	n-Propylbenzene	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
74	Napthalene	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
75	o-Xylene	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
76	p-Isopropyltoluene	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
77	p-Xylene	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
78	Sec-Butylbenzene	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
79	Styrene	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
80	Tert-Butylbenzene	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
81	Tetrachloroethene	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
82	Toluene	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
83	Trans-1,2-Dichloroethene	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
84	trans-1,3-Dichloropropene	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)
85	Trichloroethylene	SMSLA/GM/SOP/07	mg/m³	BLQ(LOQ:0.1)

Note : Dioxin Analysis was subcontracted to INSTITUTE FOR APPLIED CHROMATOGRAPHY, EFRAC Kolkata. Levels of 17 congeners are enclosed as Annexure - 1. UOM:Unit of Measurement TEQ:Toxicity Equivalent. BLQ: Below Limit of Quantification LOQ: Limit of Quantification.

Conclusion: The above tested sample conforms the CPCB standards for the above tested parameters.

/********** End of the Report **********/

JSW Cement Limited

Vill : Bibekgudur
Mdl : Gadivemula
Dist : Kurnool - 518 508, A.P.
Phone : 08514 - 202304
08514 - 202305
Website : www.jswcement.in

JSWCL/NDL/ENV-FORM V/2022-23 Dt: 23.09.2022

To
Environment Engineer,
A.P. Pollution Control Board
Shankar Shopping Complex,
Krishna Nagar-Main Road
KURNOOL, A.P

Sub: Environmental Statement Report (Form-V) for the year 2021-22-Reg
Ref: APPCB/KNL/KNL/124/HO/2016 Dt: 16.08.2016

Dear Sir,

In accordance with EPA Rules and Consent for operation conditions schedule –A point no:7, we are herewith enclosing the Environmental Statement Report (Form V) for **Cement Plant** for the year 2021-2022.

Kindly acknowledge the receipt of the same.

Thanking you,

Yours faithfully,
for JSW **Cement Limited**

HC Gupta
Plant Head

Pollution Control Board Regional Office * A.P. KURNOOL Dt: 30/9/22

Cc: **Member Secretary,**
A.P. Pollution Control Board,
D.NO:33-26-14 D/2, Near Sunrise Hospital,
Chalamvari Street, Kasturibaipet, VIJAYAWADA-520010, A.P

Encl: a/a

JSW Cement Limited

Vill : Bilakalagudur
Mdl : Gadivemula
Dist. : Kurnool - 518 508, A.P.
Phone : 08514 - 202304
08514 - 202305
Website : www.jswcement.in

Ref: JSWCL-NDL/MoEF-EC/Cement Plant/2022-23

Dt: Sept 30, 2022

The Chairman,
Zilaparishad, Kurnool, A.P.,

Sub: Copy of the Environmental Clearance for enhancement of clinker production capacity from 2.5 to 3.4 MPTA, Cement:4.8 to 6.0 MTPA (OPC/PPC/PSC/CC/GGBS), 18 MW Coal based Power plant within the existing premises of JSW Cement Limited, Bilakalagudur Village, Gadivemula (M), Nandyal (Dist.) 518 508, A. P.

Ref: EC Ref. No. I-11011/889/2007 – IA II (I), dated 26.09.2022

Dear Sir,

With reference to the captioned subject and Reference, we are herewith submitting a copy of the above referred Environmental Clearance granted to M/s JSW Cement Ltd. for the enhancement of clinker production capacity from 2.5 to 3.4 MPTA, Cement:4.8 to 6.0 MTPA (OPC/PPC/PSC/CC/GGBS) and 18 MW Coal based Power plant within the existing premises of JSW Cement Limited, Bilakalagudur Village, Gadivemula (M), Nandyal (Dist.) 518 508 for your kind information and public display as prescribed at condition No. X Miscellaneous (ii) of the enclosed letter.

Thanking you

Yours Sincerely,
for JSW Cement Limited,

HC Gupta
Plant Head

Encl: As above

04 OCT 2022

CIN-U26957MH2006PLC160639

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