

## 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**  
 PERIOD OF COMPLIANCE REPORT: **01.04.2023 to 30.09.2023**

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.	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.	Follow all the applicable 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: <ol style="list-style-type: none"> <li>1. Deployed 5 nos of EV vehicles for material transportation</li> <li>2. Installed 15 MW solar power plant</li> <li>3. 12.2 MW WHRS installed</li> <li>4. Planned to plant additional 61500 trees in the plant premises which will help in carbon sequestration</li> </ol> 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.	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 <ol style="list-style-type: none"> <li>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.</li> <li>b. No plant activities are proposed near to canal.</li> </ol>

		<p>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</p> <p>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..</p>
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/tonne of Portland- Pozzolona cement (PPC) and 95 units/tonne of cement for Ordinary Portland Cement and thermal energy consumption of 670 kcal/Kg of Clinker.	Plant upgradation/ modernization work were completed. 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 3.0Ha area be planted along western boundary and balance 4.37 FY 24-25.

	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 concreted 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.	Provided Separate drainage system for storm water and no industrial waste water form the process operations.
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-2
xxi	Air cooled condensers shall be used in the captive power plant in place of water-cooled system.	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.	So2 emissions are within the limits while doing petcoke into the system.
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 co-processing 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. Wet 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	2 Nos truck mounted Mist cannons installed.
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.	<p>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.</p> <p>b) No plant activities are proposed near to canal.</p> <p>The following measures are proposed/implemented to protect the canal</p> <ol style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>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.</li> </ol>
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 1 <sup>st</sup> 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.	All the E-Waste are stored in secured location and disposed to the approved vendors .
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.	Compliance report with respect to actions taken to mitigate the risks from time to time.
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.	Following as per the Rules from time to time.
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### 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><th>Sl. No.</th><th>Location</th><th>Dust concentration (mg/Nm³)</th></tr><tr><td>1</td><td>Packing plant</td><td>0.53</td></tr><tr><td>2</td><td>Coal mill Hopper</td><td>0.32</td></tr><tr><td>3</td><td>Raw mill hopper</td><td>0.41</td></tr><tr><td>4</td><td>Crusher Hopper</td><td>0.43</td></tr></table>	Sl. No.	Location	Dust concentration (mg/Nm³)	1	Packing plant	0.53	2	Coal mill Hopper	0.32	3	Raw mill hopper	0.41	4	Crusher Hopper	0.43										
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iii	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.	<p>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 01.10.2022 to 31.03.2023 are tabulated below:</p> <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>57.00</td><td>28.00</td><td>12.82</td><td>14.62</td></tr><tr><td>MRSS Bld</td><td>55.80</td><td>34.40</td><td>11.78</td><td>13.18</td></tr><tr><td>Old Security gate</td><td>64.00</td><td>32.50</td><td>12.10</td><td>13.45</td></tr><tr><td>Colony</td><td>47.60</td><td>24.00</td><td>12.82</td><td>14.62</td></tr></table>	Location	PM-10 µgm/m3	PM 2.5 µgm/m3	So2 µgm/m3	Nox µgm/m3	New Security gate	57.00	28.00	12.82	14.62	MRSS Bld	55.80	34.40	11.78	13.18	Old Security gate	64.00	32.50	12.10	13.45	Colony	47.60	24.00	12.82	14.62
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iv	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.	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.																									
v	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.	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.																									
vi	The project proponent shall provide leakage detection and mechanised bag cleaning facilities for better maintenance of bags.	Leakage detection and mechanised bag cleaning facilities are provided for all the bag filters.																									
vii	Pollution control system in the cement plant shall be provided as per the CREP Guidelines of CPCB.	All the pollution control systems are designed keeping in view of CREP guidelines.																									
viii	Sufficient number of mobile or stationery vacuum cleaners shall be provided to clean plant roads, shop floors, roofs, regularly.	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.																									
ix	Ensure covered transportation and conveying of raw material to	All the materials loaded trucks are covered with tarpaulins to avoid the spillage and dust generation.																									

	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 25th August, 2014 (Cement) and subsequent amendment dated 9th May, 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.
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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

i	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.	Noise levels are regularly monitored and reported along with six monthly compliance report.			
ii	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.	Ambient noise levels are maintained well within the prescribed limits. The ambient noise levels for the period Oct 22 to March 23 are as below.			
		#	Location	Nose levels dBA (avg.) Day time      Night time	
		1	Near New Security gate	66.60	59.70

		2	Near MRSS Building	71.20	68.55
		3	Near Old Security gate	69.15	65.0
		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 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 Apr 23 to Sep 2023 was 79.14 kWh/t cement and Thermal energy consumption was: 704.15 kcal/Kg of Clinker. 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, 15 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 locations.

#### VI. Waste management

i	Used refractories shall be recycled as far as possible.	Complied. Used refractories are sold to vendors for recycling.
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#### 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.	<p>JSWCL plans to further reduce CO<sub>2</sub> emission by implementing the following measures:</p> <ul style="list-style-type: none"> <li>Increasing use of alternate fuels to the extent of &gt;15% Thermal Substitution rate (TSR)</li> <li>Reduction in sp. thermal energy (~25 Kcal/kg clinker) through cooler upgradation, cyclone modification and use of steel slag in Raw meal</li> <li>Reduction of clinker factor (~7%) by increasing production of blended cement</li> <li>Installation of 12.2 MW Waste Heat Recovery Power Plant</li> <li>Enhancing the existing capacity of Solar power plant from 5.5 MW to 15 MW in next 3 years</li> <li>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)</li> </ul> <p>With the implementation of above measures, we will reduce our net CO<sub>2</sub> emission by 12.4 % in next 3 years. Total CO<sub>2</sub> savings to be achieved = <b>193651</b> t per annum</p>
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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.	Decarbonization 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	As part of CER, we have already initiated the socio-economic survey of nearby areas and based on the
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	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.	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 <b>Annexure.....</b>
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 <b>Sakshi Paper</b> Telugu and English Newspapers <b>The Hans India</b> on 29.9.2022. Copies of the newspaper advertisements are enclosed as <b>Annexure</b> .
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 On 06.10.2022, MRO 04.10.2022, Zila Parishad on 04.10.2022, Environmental engineer on

		<p>04.10.2022.</p>  <p>JSW CEMENTS LIMITED  Vil - Bilalagur  Dist - Khammam  Dist - Khammam - 508 508, A.P.  Phone - 08514 202200  08514 202200  Website: www.jswcement.in  Dt: Sept 30, 2022</p> <p>Ref: JSWCL/NDL/MoEF-EC/Cement Plant/2022-23</p> <p>The Chairman,  Zilapanshad, Kymool, A.P.,</p> <p>Sub: Copy of the Environmental Clearance for enhancement of clinker production capacity from 2.5 to 3.4 MTPA, Cement-4.8 to 6.0 MTPA (OPC/PPC/PSG/CC/GGBS), 18 MW Coal based Power plant within the existing premises of JSW Cement Limited, Bilalagur Village, Gadivemula (M), Nandyal (Dist.) 518 508, A.P.</p> <p>Ref: EC Ref. No. I-1101/889/2007 - IA II (I), dated 26.09.2022</p> <p>Dear Sir,</p> <p>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 MTPA, Cement-4.8 to 6.0 MTPA (OPC/PPC/PSG/CC/GGBS) and 18 MW Coal based Power plant within the existing premises of JSW Cement Limited, Bilalagur 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.</p> <p>Thanking you</p> <p>Yours Sincerely,    HC Gupta  Plant Head</p> <p>Encl: As above</p>  <p>Part of O.P. Jindal Group</p> <p>Regd. Office:  JSW Cement, Co., Nandyal Group  Banda Kuda Complex, Bantval (M)  Nandyal - 508 508  Pin (Dist) - 518 508  Pin (Dist) - 518 508  Pin (Dist) - 518 508  Website: www.jswcement.in</p>
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 1 <sup>st</sup> June, 2024.
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 30 <sup>th</sup> 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 30.09.2023
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)	We will not go for Expansion without EC.
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, <i>inter-alia</i> 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.	<a href="#">Noted.</a>



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



	
<p>Description: <a href="#">Online CEMS</a></p>	<p>Description: <a href="#">CAAQMS</a></p>
	
<p>Description: <a href="#">HW Co-processing shed</a></p>	<p>Description: <a href="#">Energy Meters</a></p>



Photo:

Description: [Water Flow Meters](#)



Description: [Rain water Harvesting syst.](#)



Description: [Closed Conveyor Belts](#)



Description: [CC Roads and Green Belt](#)



**JSW Cement Limited**

Vill : Bilakagudur  
Mdl : Gadivemula  
Dist : Kurnool - 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,

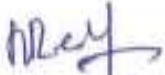
**Sub: Emission monitoring report for the Kiln stack -Reg.**  
Ref: APPCB/KNL/KNL/124/HO/2019 Dt: 29.07.2019

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





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

SlNo	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)	Nm <sup>3</sup> /Hr	622934	NA
3	Oxygen as O <sub>2</sub>	SMSLA/EN/SOP/046	%	13.5	NA
4	Carbon Dioxide as CO <sub>2</sub>	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 <sub>2</sub>	IS 11255 (Part 2)	mg/Nm <sup>3</sup>	12	100 Max.
7	Carbon Monoxide as CO	SMSLA/EN/SOP/046	mg/Nm <sup>3</sup>	20	NA
8	Oxides of Nitrogen as NO <sub>x</sub>	SMSLA/EN/SOP/046	mg/Nm <sup>3</sup>	447	800 Max.
9	Particulate Matter	IS 11255 (Part 1)	mg/Nm <sup>3</sup>	19.2	30 Max.
10	Total Organic carbon	SMSLA/EN/SOP/47	ppm	3.7	10 Max.
11	Lead as Pb	EPA - 29	mg/Nm <sup>3</sup>	BLQ(LOQ:0.02)	NA
12	Copper as Cu	EPA - 29	mg/Nm <sup>3</sup>	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/Nm <sup>3</sup>	BLQ(LOQ:0.00002)	NA
14	Nickel as Ni	EPA - 29	mg/Nm <sup>3</sup>	BLQ(LOQ:0.00002)	NA
15	Antimony as Sb	EPA - 29	mg/Nm <sup>3</sup>	BLQ(LOQ:0.00002)	NA
16	Mercury as Hg	EPA - 29	mg/Nm <sup>3</sup>	BLQ(LOQ:0.00002)	0.05 Max.
17	Arsenic as As	EPA - 29	mg/Nm <sup>3</sup>	BLQ(LOQ:0.00002)	NA
18	Total Chromium as Cr	EPA - 29	mg/Nm <sup>3</sup>	BLQ(LOQ:0.00002)	NA
19	Vanadium as V	EPA - 29	mg/Nm <sup>3</sup>	BLQ(LOQ:0.00002)	NA
20	Manganese as Mn	EPA - 29	mg/Nm <sup>3</sup>	BLQ(LOQ:0.00002)	NA
21	Cd+Pb +their Compounds	EPA - 29	mg/Nm <sup>3</sup>	BLQ(LOQ:0.00002)	0.05 Max.
22	Sb+As+Pb+Cr+Co+Cu+Mn+Ni+V+their compounds	EPA - 29	mg/Nm <sup>3</sup>	BLQ(LOQ:0.00002)	0.5 Max.
23	Hg and its compounds	EPA - 29	mg/Nm <sup>3</sup>	BLQ(LOQ:0.00002)	NA
24	Titanium	EPA - 29	mg/m <sup>3</sup>	BLQ(LOQ:0.00002)	NA
25	Cobalt as Co	EPA - 29	mg/Nm <sup>3</sup>	BLQ(LOQ:0.00002)	NA
26	Hydrogen Chloride (HCL)	EPA 26A	mg/m <sup>3</sup>	BLQ(LOQ:0.02)	10 Max.
27	Hydrogen Fluoride (HF)	EPA 26A	mg/m <sup>3</sup>	BLQ(LOQ:0.02)	1 Max.
28	Thallium as Tl	EPA - 29	mg/Nm <sup>3</sup>	BLQ (LOQ:0.001)	NA
29	Total Dioxin & Furan	EPA Method 23A	ng TEQ/Nm <sup>3</sup>	< 0.01	0.1

## 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
<b>Polycyclic Aromatic Hydrocarbons</b>				
30	PAHs	SMSLA/GM/SOP/06	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
<b>Trace Metal Elements</b>				
31	Hg and its compounds	EPA - 29	µg/m <sup>3</sup>	BLQ(LOQ:0.02)
<b>Volatile Organic Compounds</b>				
32	1,1,1,2-Tetrachloroethane	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
33	1,1,1-Trichloroethane	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
34	1,1,2,2-Tetrachloroethane	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
35	1,1,2-Trichloroethane	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
36	1,1-Dichloro-1 propene	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
37	1,1-Dichloroethane	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
38	1,1-Dichloroethylene	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
39	1,2-Dichloroethane	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
40	1,2,3-Trichlorobenzene	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
41	1,2,3-Trichloropropane	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
42	1,2,4-Trichlorobenzene	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
43	1,2,4-Trimethylbenzene	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
44	1,2-Dibromo-3-chloropropane	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
45	1,2-Dibromoethane	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
46	1,2-Dichlorobenzene	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
47	1,2-Dichloropropane	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
48	1,3,5-Trimethylbenzene	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
49	1,3-Dichlorobenzene	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
50	1,3-Dichloropropane	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
51	1,4-Dichlorobenzene	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
52	2,2-Dichloropropane	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
53	2-Chlorotoluene	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
54	4-Chlorotoluene	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
55	Benzene	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
56	Bromo chloromethane	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
57	Bromo dichloromethane	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
58	Bromobenzene	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
59	Bromoform	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
60	Carbon tetrachloride	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
61	Chlorobenzene	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
62	Chloroform	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
63	Cis-1,2-Dichloroethane	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	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/m <sup>3</sup>	BLQ(LOQ:0.1)
65	Dibromochloromethane	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
66	Dibromomethane	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
67	Dichloromethane	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
68	Ethylbenzene	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
69	Hexachloro-1,3-butadiene	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
70	Isopropylbenzene	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
71	m-Xylene	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
72	n-Butylbenzene	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
73	n-Propylbenzene	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
74	Napthalene	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
75	o-Xylene	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
76	p-Isopropyltoluene	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
77	p-Xylene	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
78	Sec-Butylbenzene	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
79	Styrene	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
80	Tert-Butylbenzene	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
81	Tetrachloroethene	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
82	Toluene	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
83	Trans-1,2-Dichloroethene	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
84	trans-1,3-Dichloropropene	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	BLQ(LOQ:0.1)
85	Trichloroethylene	SMSLA/GM/SOP/07	mg/m <sup>3</sup>	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**

V8 :Bilgaipur  
M8 :Gadivemala  
Dist :Kurnool - 518 003, A.P.  
Phone :08514 - 282304  
08514 - 282305  
Website : www.jswcement.in

JSWCL./NDI./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

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



CIN-U28957MH2005PLC160839

Regd. Office :  
JSW Centre, Opp. MMFDA Ground  
Bandra Kurla Complex, Bandra (East)



JSW Cement Limited

Vil : Bilakagudur  
Md : Gadivemula  
Dist : Kurnool - 518 508, A.P.  
Phone : 08514 - 252304  
08514 - 252305  
Website : www.jswcement.in

Dt: Sept 30, 2022

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

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 MPTA (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 MPTA (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



Part of O. P. Jindal Group

CIN-U29357MH2005PLC198639

Regd. Office :  
JSW Centre, Opp. MHRDA Ground  
Bandra Kurla Complex, Bandra (East)  
Mumbai - 400 951.  
Ph (Direct): +91 - 22 - 4286 5047  
Fax : +91 - 22 - 2650 2001  
Website : www.jswcement.in