



JSW Cement Ltd

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CIN - U26957MH2006PLC160839

Ref: JSW Cement/ENV/06-2023/

Date: 02.06.2023

To,
The Director (S),
Ministry of Environment & Forest,
Kendriya Sadan, Karamangala,
Bangalore – 560034.

Dear Sir,

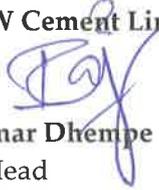
SUB: Submission of Six Monthly EC Compliance Report for the period of October –2022 to March - 2023 for 4.0 MTPA Cement of JSW Cement Limited.

Ref: Environment Clearance No: J-11011/540/2017-IA II (I) dated 01.02.2018.

Please find enclosed herewith six monthly compliance reports for the period of October–2022 to March–2023 against the conditions of Environmental Clearance granted to JSW Cement Limited, Vijayanagar works Bellary vide letter No: F. No. IA-J-11011/540/2017-IA-II(I), dated: 01.02.2018 for 4.0 MTPA Cement.

Thanking You,

For JSW Cement Limited,


Rajkumar Dhemphe
Plant Head
Authorized Signatory,

CC:

Zonal Office, CPCB, 1st and 2nd Floor, Nisarga Bhavan, A-Block, Thimmaiah main road, 7th Cross, Shivanagar, Bengaluru – 560010.

Regional Officer, Karnataka State Pollution Control Board, Sy No. 597P, Ward No. 25, 4th Main Road, Near Dr. Vishnuvardhana Park, Kuvempunagar, Bellary – 583104.



Part of O.P. Jindal Group

Regd. Office: JSW Center,
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**ENVIRONMENT CLEARANCE COMPLIANCE STATUS
REPORT OF SLAG MIXING AND GRINDING UNIT
PERIOD: October 2022 TO March 2023**



**JSW Cement Limited
(Unit-Vijayanagar Cement Works)
Vidayanagar (P.O), Toranagallu (V),
Sandur (Tq), Bellary (D),
Karnataka - 583275**

Compliance Report

Name of Project	:	4.0 MTPA Slag Grinding and Mixing Unit
Clearance Letter No.	:	F. No. IA-J-11011/540/2017-IA-II(I)
Period of Compliance Report	:	Oct - 22 to Mar - 23

Compliance report of conditions stipulated in the Environment clearance

1. ENVIRONMENT CLEARANCE NO J-11011/540/2017-IA II (I) dated 01.02.2018

A. Specific Conditions

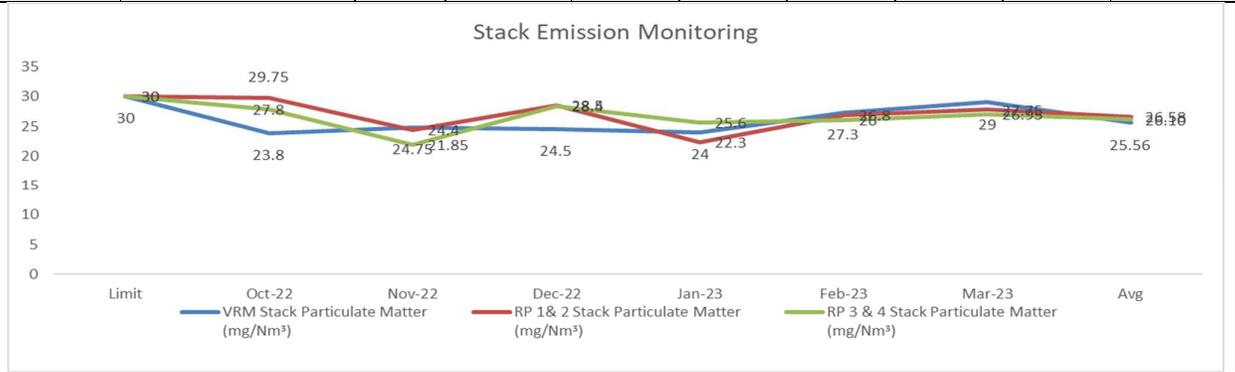
S.N.	CONDITIONS	COMPLIANCE STATUS
i	<p>The project proponent should install 24x7 air and water monitoring device to monitor air emission and effluent discharge, as provide by CPCB and submit report to ministry and its regional office.</p>	<p>Unit have installed on line continuous stack emission-monitoring system at VRM bag house stack, RP mill 1&2, RP 3&4 bag house stack and connected to SPCB/CPCB Servers.</p> <p>No effluents generated from our cement manufacturing process.</p> <p>Stack emission & AAQM monitoring report is being regularly submitted to KSPCB regional office Bellary on monthly basis. Environment monitoring reports are also being submitted to CPCB Bengaluru and MoEF&CC every six month as part of EC Compliance report.</p> <p>Stack emission & ambient air quality monitoring reports attached along with EC compliance status report for last six Month for the period Oct-22 to Mar-23.</p>
ii	<p>All the conditions stipulated by the standing committee of the National Board for wild life should be effectively implemented.</p>	<p>The EC has been transferred from JSW Steel Limited, the parent company to JSW Cement Limited. Implementation of Wildlife Conservation plan is being undertaken by JSW Steel limited and regular compliance status is being submitted to MoEF&CC by JSW Steel.</p>

iii	<p>The PP shall participate in a Wildlife Conservation Plan for Sloth Bears and other Schedule-I fauna found in the study area and in the Daroji Bear Sanctuary. The Conservation Plan shall be prepared in consultation with the State Wildlife Department. The Plan with various activities including creation of water bodies, elimination of weeds, eco-regeneration plan including regeneration of fruit bearing trees and improvement of ecological habitat and support to the nearby villages to minimize dependency on forest produce for fuel shall contain budgetary support with details of capital and revenue costs for various activities, the details of expenditure made on which shall be regularly submitted as part of the Compliance Report to Regional Office, Bangalore</p>	<p>The EC has been transferred from JSW Steel Limited, the parent company to JSW Cement Limited. Implementation of Wildlife Conservation plan is being undertaken by JSW Steel limited and regular compliance status is being submitted to MoEF&CC by JSW Steel.</p>
iv	<p>The PP shall obtain assured raw materials (particularly Blast Furnace slag, Clinker and coal) from designated sources for long-term supply and shall enter into long-term MOUs with producers/ setters of raw materials used, Washed coal shall be used</p>	<p>We have already done MOU with suppliers for long term supply of raw materials such as blast furnace slag, Clinker, Gypsum, Fly ash & Coal.</p>
v	<p>All the units of the expansion project shall operate using state-of-art energy efficient technologies, environmental pollution prevention and control technologies and energy efficient measures including the 4Rs shall be implemented at every step of the plant operation.</p>	<p>All the units of JSW Cement's expansion project are operating using state-of-art energy efficient technologies, environmental pollution prevention and control technologies and energy efficient measures including the 4Rs.</p>
vi	<p>On-line ambient air quality monitoring and continuous stack monitoring facilities for all the stacks shall be provided and sufficient air pollution control devices viz, Electrostatic precipitator (ESP) and bag filters etc. shall be provided to keep the emission levels of particulates below 50 mg/Nrn³ from stacks and also meet level of the 50 µg/ m³ in work zone.</p>	<p>JSW Cement Limited is located within the premises of JSW Steel limited. 05 nos. of On line continuous ambient air quality monitoring stations (CAAQMS) are installed in JSW Steel complex for monitoring of ambient air quality and online realtime data are transmitted to CPCB</p> <p>Unit have provided 03 Nos of Bag house VRM & RP mills to control the emission level below 30 mg/Nm³.</p> <p>Unit have also provided 107 nos of bag filters at all material transfer points to control fugitive dust emission. As stated above unit have installed on line continuous stack emission monitoring system at Vertical roller mill bag house stack ,RP-1&2, RP-3&4 Bag house stack and OCEMS have been connected to CPCB/SPCB servers and data are being continuously uploaded to CPCB/SPCB servers.</p>

The Emission monitoring is being done on regular basis to check the effectiveness of installed APCD and average ranges of monitoring results are in mg/Nm³ given below in tabular form: (Oct22 to Mar.23)



Stack	Parameters	Limit	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Avg
VRM Stack	Particulate Matter (mg/Nm ³)	30	23.8	24.75	24.5	24	27.3	29	25.56
RP 1 & 2 Stack	Particulate Matter (mg/Nm ³)	30	29.75	24.4	28.5	22.3	26.8	27.75	26.58
RP 3 & 4 Stack	Particulate Matter (mg/Nm ³)	30	27.8	21.85	28.4	25.6	26	26.95	26.10



vii Air Pollution control measures shall include Pulse Jet Bag Filter & DSS in yards. Vents in storage tanks

Unit have provided best in class Air pollution control equipment's i.e. pulse jet type bag filters in VRM & Roller press mill 1 &2 & Roller Press mill 3 &4, which are designed to keep the dust emission well below the prescribed norms.

To keep the fugitive emission within control and keep the ambient air quality as per the norms unit have also provided 107 no. pulse jet bag filters at all the transfer points where material movement takes.

Regular water spraying is done in raw material yards.

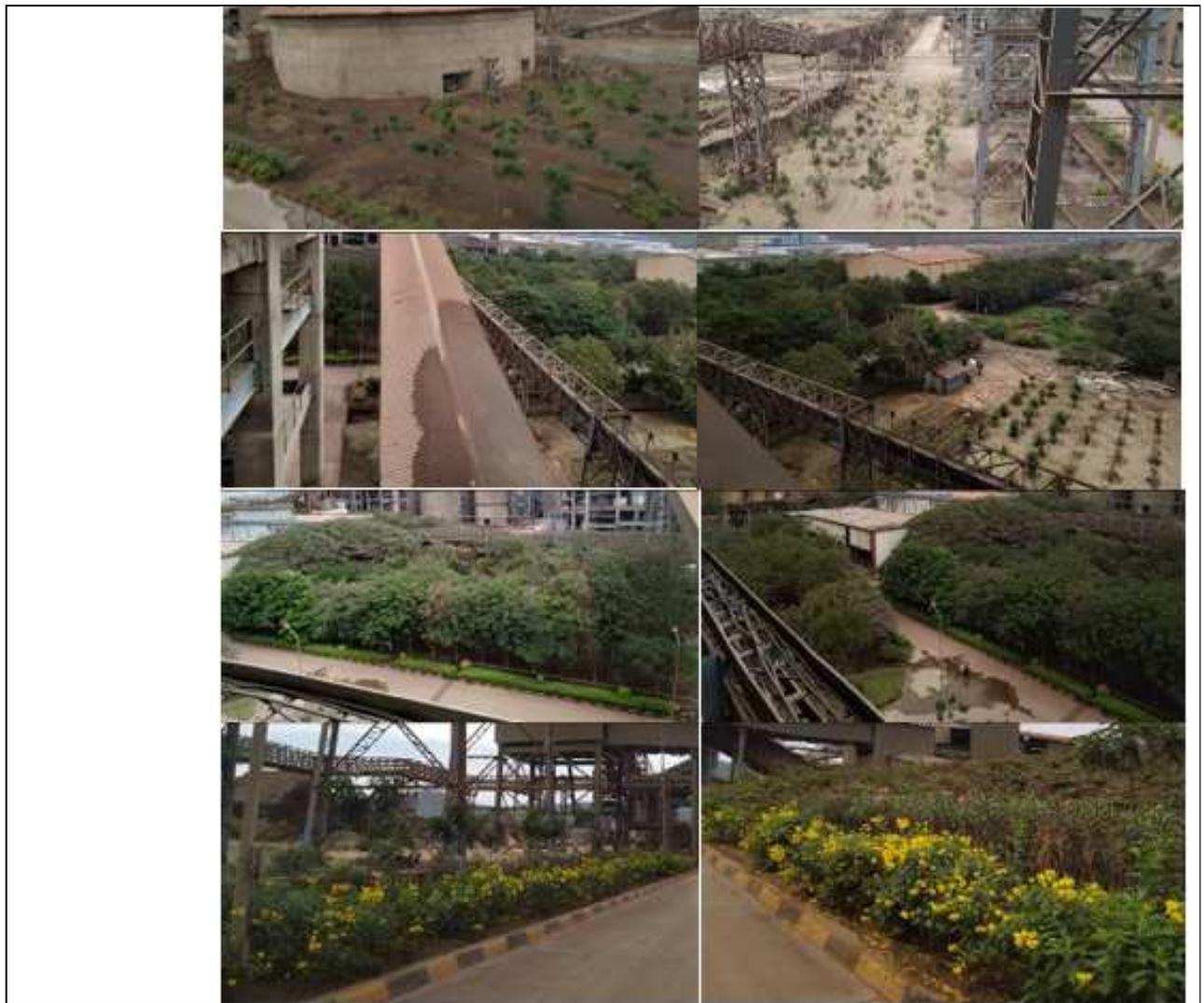
Unit have provided vents in all the storage silo to avoid silo failures due to

		pressurization of the same and also provided bag filters on silo tops for venting.
		
viii	<p>In-plant control measures like bag filters, de-dusting and dust suppression system shall be provided to control fugitive emissions from all the vulnerable sources. Water sprinkling system shall be provided to control secondary fugitive dust emissions generated during screening, loading, unloading, handling and storage of raw materials etc.</p>	<p>Unit have provided De-dusting Bag filters are provided at all the material transfer points to control fugitive emissions and also unit is regularly doing preventive/scheduled maintenance of Air pollution control equipment's to ensure proper functioning of the same. Regular water sprinkling is done in all dust prone areas to control fugitive dust emission.</p>
ix	<p>Gaseous emission levels including secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry vide G_S.R. 414(E) dated 30th May, 2008 and regularly monitored. Guidelines / Code of Practice issued by the CPCB shall be followed</p>	<p>Not applicable for cement plants as the GSR 414(E) dated 30th May 2008 is having permissible limits for Sponge Iron Plant.</p>
x	<p>The plant shall develop rail track for conveying slag from JSW Steel to JSW Cement.</p>	<p>Rail track developed for transportation of slag from JSW Steel to JSW Cement plant.</p>
xi	<p>Detailed unit-wise Risk Analysis and Assessment and detailed on-site and off-site Emergency Preparedness and Disaster Management Plan (DIP) linked to District-level IJMF shall be prepared in consultation with district authorities and mock drills carried out periodically</p>	<p>Unit wise risk analysis and its Assessment details, on-site and off-site plan already prepared and report submitted to Department of factories Bellary. Mock drills are carried out periodically</p>

<p>xii</p>	<p>Proper handling, storage, utilization and disposal of all the solid waste shall be ensured and regular report regarding toxic metal content in the waste material and its composition, end use of solid/ hazardous waste shall be submitted to the Ministry's Regional Office at Bangalore, SP CB and CPCB.</p>	<p>Unit is not generated any type of solid waste from its operations.</p> <p>Hazardous waste generated from the unit is used oil/grease and empty barrels same is being sold to registered recyclers, details of hazardous waste generated/transported/ disposal through sold to registered recyclers is being submitted to SPCB in Form-X & Form-IV in compliance to Hazardous & other Waste (Management & Transboundary Movement) Rules,2016.</p>
<p>xiii</p>	<p>BF Slag shall be used for cement making</p>	<p>Being pioneer in the green cement manufacturing unit is consuming BF slag for the manufacturing of PSC, Composite cement & GGBS. Unit is giving thrust for maximum utilization of blast furnace slag in cement manufacturing.</p>
<p>xiv</p>	<p>Total water requirement for the facility shall be provided from JSW Steel Ltd, and shall not exceed 565 m³/day. The blow down from the system shall be used for greenbelt development. The effluent from domestic sources shall also be used for green belt development after treatment in septic tank and soaking pits. No effluent shall be discharged outside the factory premises, "Zero Liquid Discharge" shall be followed strictly as proposed</p>	<p>Water for the unit is provided by JSW Steel Limited. Average daily water consumption for past six months, i.e. during Oct'2022 to Mar'2023 is 239 m³/day. Domestic waste water is being used for greenbelt development after proper treatment.</p> <p>Unit is maintaining Zero liquid discharge (ZLD) Status.</p>
<p>xv</p>	<p>The proponent shall adopt water conservation measures to reduce requirement of make-up water. The wastewater generated from the indirect cooling circuit shall be routed through the cooling tower, The domestic wastewater shall be treated in a Sewage Treatments plant (STP) and used for dust suppression and green belt development</p>	<p>Unit have implemented rooftop rain water harvesting in our plant for conservation of rain water.</p> <p>Domestic wastewater generated from the plant premises is less than 49 KLD and it is being treated in State of Art Technology STP having 60 KLD capacity, treated domestic effluent is being utilized for dust suppression and green belt development within plant premises.</p>

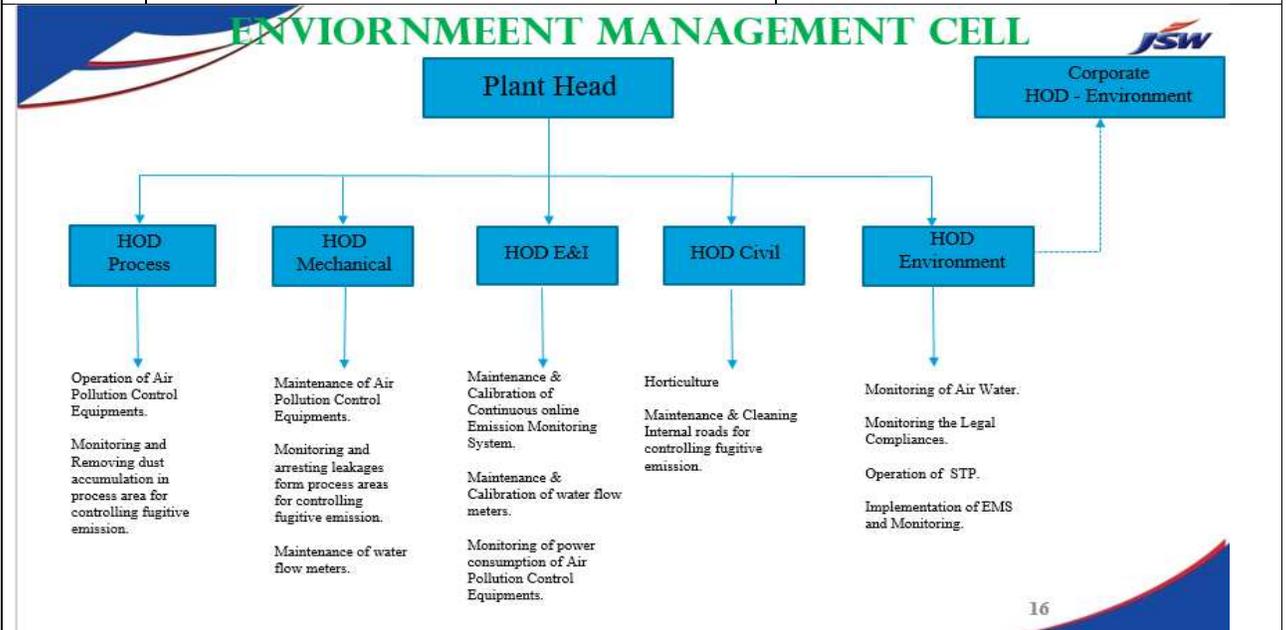


<p>xvi</p>	<p>Efforts shall further be made to use maximum water from the rain water harvesting sources to reduce intake of water from Almatti and Tungabhadra Dam. If needed, capacity of the reservoir shall be enhanced to meet the maximum water requirement. Only balance water requirement shall be met from other sources.</p>	<p>Reservoir pond already constructed in the premises of JSW Steel Limited for collection of rain water. We are using the harvested water for plantation/ horticulture purpose.</p>
<p>xvii</p>	<p>Regular monitoring of influent and effluent surface, sub-surface and ground water shall be ensured and treated wastewater shall meet the norms prescribed by the State Pollution Control Board or described under the E(P) Act whichever are more stringent. Leachate study for the effluents generated and analysis shall also be regularly carried out and report submitted to the Ministry's Regional Office at Bangalore, SPCB and CPCB</p>	<p>Unit is not generating any trade effluent , domestic effluent generated from the plant premises is being treated in state of art technology sewage treatment plant having capacity to treated 60 KLD, treated domestic water is being utilized in dust suppression/green belt development</p>
<p>xix</p>	<p>Green belt shall be developed in 33% of plant area. Selection of plant species shall be as per the CPCB guidelines in consultation with the DFO</p>	<p>Unit have developed green belt as per the CPCB guidelines and till date unit have covered 23% and reaming area will be covered under tree plantation by 2025.</p> <p>Unit have planted 1500 nos of plants in the plant premises, year wise plantation details is as mentioned below</p>



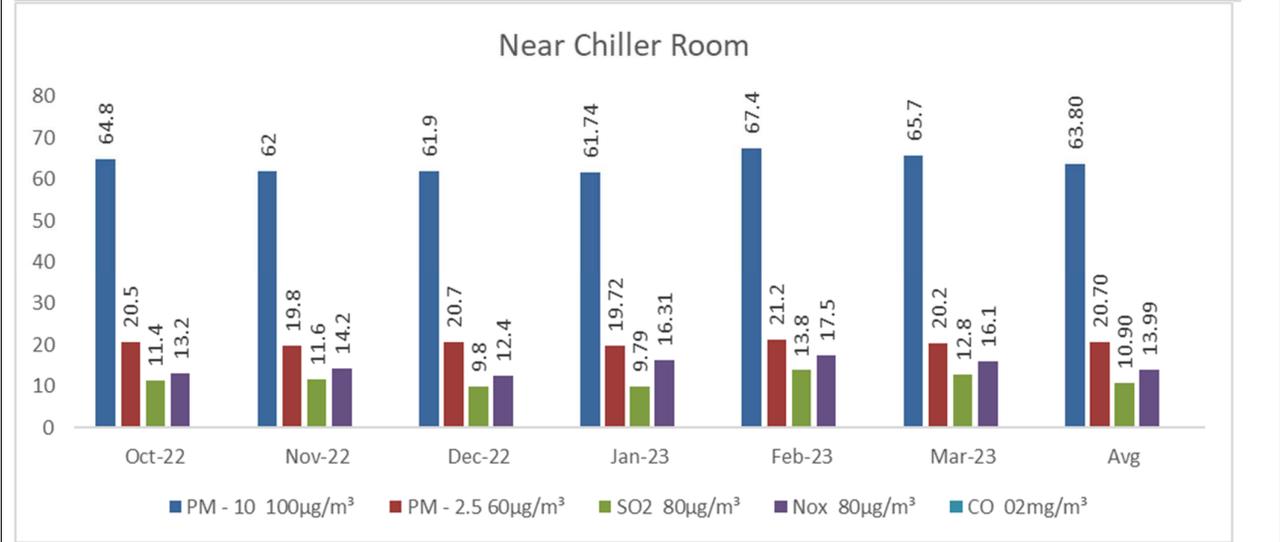
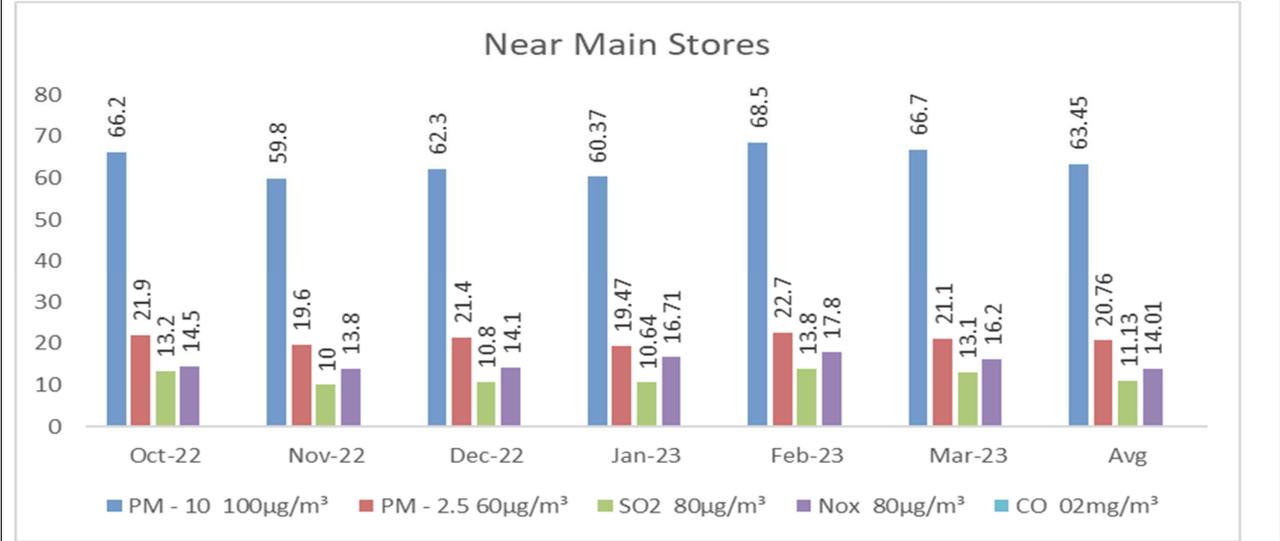
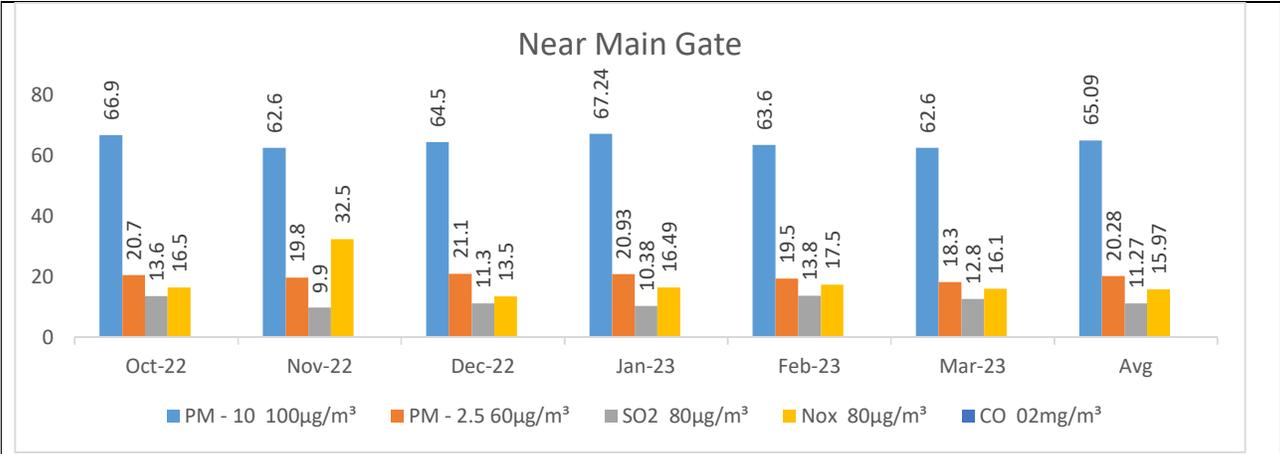
<p>xx</p>	<p>The entire power requirement shall be met from the Captive Power Plant [Existing Gas based (100 MW -130 MW); 2x300 MW (coal based 50% Indian coal and 50% Imported Coal); proposed 660 MW(super critical) J of 1490 VW of M/s JSW Steel Limited</p>	<p>The entire Power requirement is met from JSW Energy Limited. Formerly power plant was under M/S JSW Steel Limited & it is being transferred to M/S JSW Energy Limited.</p>
<p>xxi</p>	<p>The environment wing of the company and for this Plant as well as of the company shall be strengthened with qualified personnel, state-of art laboratory, infrastructure, etc and regular records of the environmental data including on-line monitoring-of emissions shall be maintained.</p>	<p>JSW Cement Limited, Vijayanagar has established an Environment Management Cell which is responsible for day to day environment and pollution monitoring activities. Air, Noise and Water quality monitoring is carried through NABL accredited laboratory and the monitoring reports are submitted on monthly basis to Regional KSPCB office.</p> <p>The Environmental Management cell also co-ordinates with all the related activities such as checking of performance of pollution control equipment installed in</p>

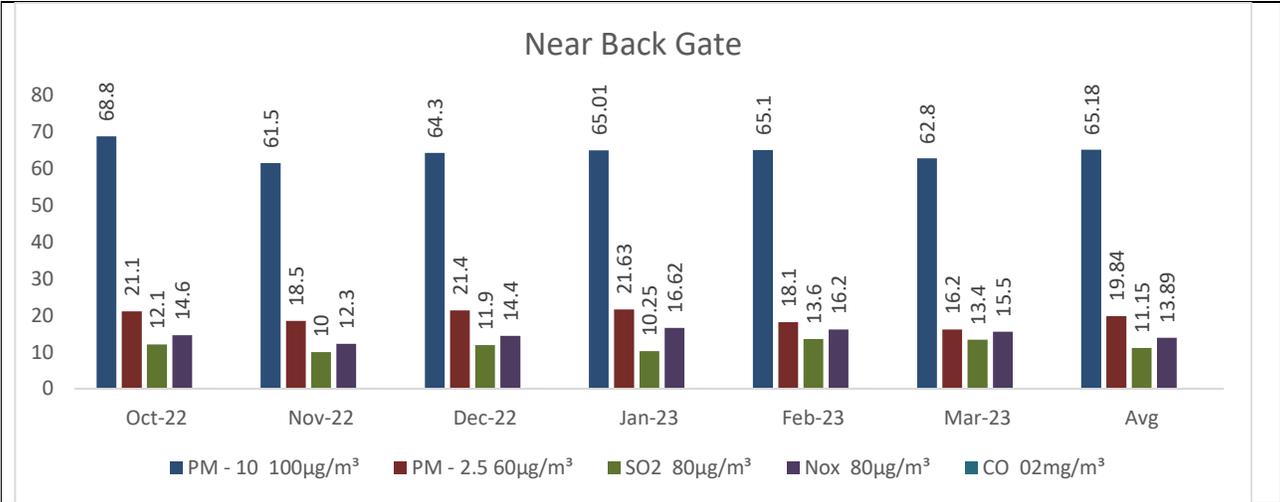
		<p>plant, Sewage treatment plant, and green belt development.</p> <p>Environment cell is maintaining all the records of the environment data inclusive of online monitoring of ambient air quality and stack emission.</p>
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<p style="text-align: center;">xxii</p>	<p>Company shall develop an HSE Policy. All the permanent workers shall be covered under ESI Scheme. The company shall have the provision for treatment of its workers at the local sub-committee Nursing Homes & Hospitals in case of emergency. Annual Medical Check-up on some medical parameters like Blood test, Chest X-Ray, Eye test_ Audiometry, Spirometry etc. shall be regularly conducted amongst the employees of the Company and records maintained thereof</p>	<p>JSW Cement Limited has HSE Policy in place. All permanent works are covered under ESI scheme and health insurance policy. JSW steel limited, Vijayanagar is having multi super specialty hospital for providing medical treatment to all the employees, worker & nearby villagers. Annual medical check-up for the prescribed parameters is regularly conducted and the records are maintained.</p>
<p style="text-align: center;">xxiii</p>	<p>A CSR Plan shall be prepared and implemented in consultation with the local villages and administration. Issues raised/covered during public hearing and incorporated in the EMP and CSR Plan. During construction phase of the expansion project, an expenditure of about minimum 5% of the capital expenditure shall be earmarked for CSR activity covering the broad areas of education, health, infrastructure, water and power spread over 5 years/period of construction of project. During operation phase of the project, the CSR activity will be funded based on 2% of the profit during operation phase of the project. 70% of the employment shall be made from_ the local population, The activities. shall include skill development, education for the girl child,</p>	<p>Implementation of Enterprise Social Responsibility and CSR Shall be the responsibility of JSW Steel Limited, the parent company as per point no. 8 of letter No. F. No. J-11011/489/2009-IA-II(I), dated 22/01/2018. JSW Steel limited is submitting regular reports related to CSR to the Ministry.</p> <p>Further to that Unit is also carrying out CSR activities nearby villages and schools.</p>

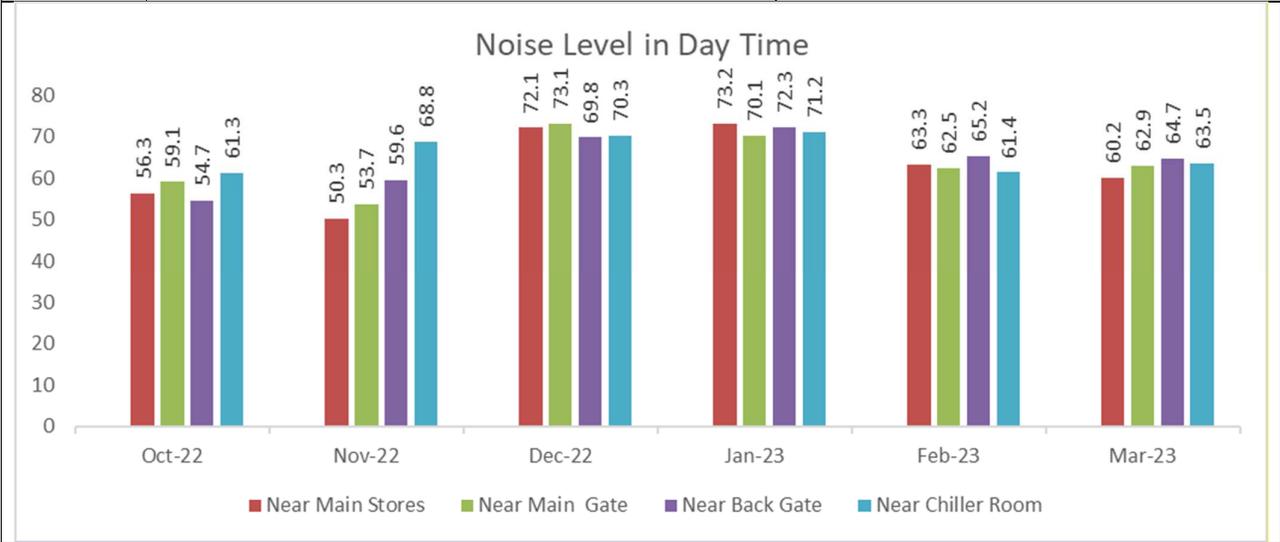
	<p>common infrastructure, alternate livelihood schemes and creation of SHGs, etc. The PP shall as part of the CSR Plan meet the drinking water requirements (pipeline) of neighboring villages from the State authorities. In addition, villages such as Dharmasagara and Bandri, which have a fluoride problem shall also be provided drinking water. All the commitments made to the public during the Public Hearing/Public Consultation meeting held on 05.10.2010 shall be satisfactorily implemented and details of which shall be furnished as part of CSR. A separate budget for implementing the same shall be allocated made. The annual capital and recurring expenditure on CSR - village-wise and activity-wise shall be uploaded on the company website and also included in the Annual Report of the company to the Ministry's Regional Office at Bangalore.</p>	
xxiv	<p>The Company shall submit within three months its policy towards Corporate Environment Responsibility which shall inter-alia address (i) Standard operating process/ procedure to being into focus a infringement/deviation/violation of environmental or forest norms/conditions, (ii) Hierarchical system or Administrative order of the Company to deal with environmental issues and ensuring compliance to the environmental clearance conditions and (iii) System of reporting of noncompliance/violation environmental norms to the Board of Directors of the company and/or stakeholders or shareholders</p>	<p>Unit have have submitted Corporate Environment Responsibility Policy to MoEF&CC regional office, Bengaluru vide our letter no. JSWCL/ENV/ MoEF /2017-18 on dated 05.03.2018.</p> <p>Company's latest and revised policy towards Corporate Environment Responsibility is as mentioned below</p>
xxv	<p>Provision shall be made for the housing of construction labor within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, Safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.</p>	<p>All necessary infrastructure / facility was provided to construction labor during construction phase of the project and also removed temporary houses after completion of the project.</p>
	GENERAL CONDITIONS	
i	<p>No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change (MoEFCC).</p>	<p>Noted and will be complied.</p>
ii	<p>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, PM2,5, 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 Bangalore and the SPCB/CPCB once in six months</p>	<p>Regular ambient air quality monitoring is being carried out by NABL accredited laboratory and the monitoring reports are submitted monthly basis to Regional KSPCB office.</p> <p>Data are also regularly submitted to CPCB & MoEF&CC once in six months. Six monthly AAQM and Stack emission data are as tabulated below</p>

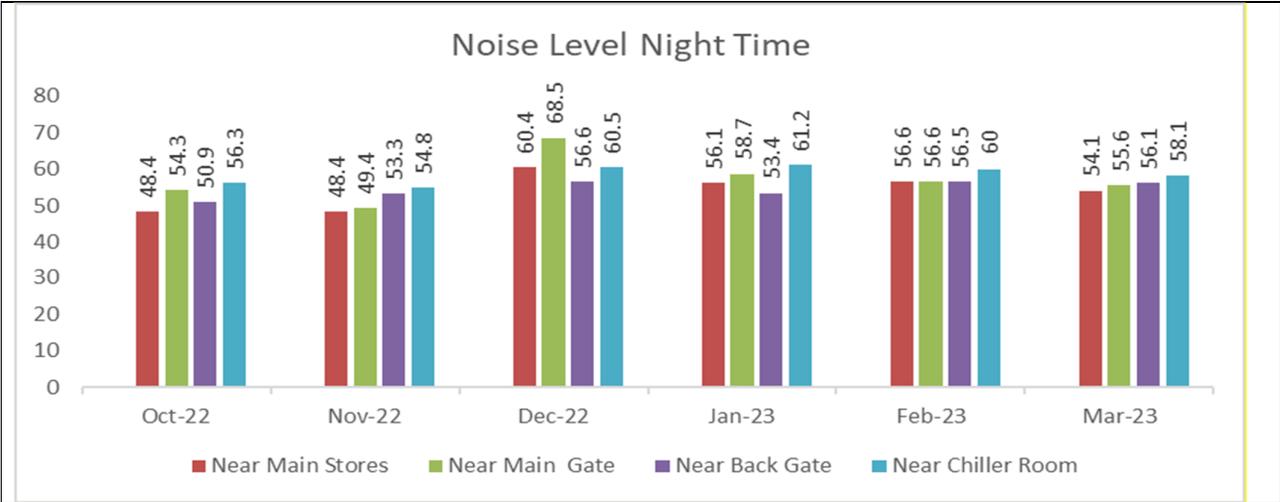




iii	<p>Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.</p>	<p>No industrial wastewater is generated from our cement manufacturing process.</p>
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iv	<p>The overall noise levels in and around the plant area shall be kept well within the standards (85 dB A) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz, 75 dBA (daytime) and 70 dBA (nighttime).</p>	<p>Noise level are maintained within prescribed norms. Unit have provided Enclosures at plant equipment's; regular maintenance of plant machineries is being carried as per the preventive maintenance schedule to reduce the noise level.</p> <p>Regular ambient noise level monitoring around the plant is being carried out and monitoring results are regularly submitted to KSPCB on monthly basis. Six monthly noise level data are as tabulated below</p>
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v Vehicular transportation of raw materials and finished products shall be kept to minimum. Dust suppression systems shall be in place at transfer points. All internal roads shall be black topped. The roads shall be regularly cleaned with mechanical sweepers. A 3-tier avenue plantation using native species shall be developed along the roads.

Unit have provided dust suppression systems in at various material handling area's. roads inside the plant area are paved and tree plantation is being carried out along the road sides.

Road sweeping is being done regularly with the help of mechanical road sweeping machines.

107 nos. of bag filters are provided at all transfer points where material movement takes place to control fugitive emission.





vi

Requisite funds shall be earmarked towards capital cost and recurring cost/annum for environment pollution control measures to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change (MoEF&CC) 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

JSW Cement Limited has incurred INR 31.69 Crore as Capital expenditure and INR 94 Lakh as recurring expenditure on pollution control measures up to September 2022. Capital cost & Recurring cost incurred on Pollution control measures is as mentioned below

CAPITAL COST INVESTMENT ON POLLUTION CONTROL MEASURES UP TO 31st March 2020					
Sl. No	Description	Qty	Unit Rate	Total in Lakhs	Total in Crores
Air Pollution control measures in RP mill area					
a	Bag House RP mill area	4	19679100	78716400	7.87
b	Bag Filter (KHD)	2	7690400	15380800	1.54
c	Bag Filter (Rieco)	1	5200000	5200000	0.52
d	Beumer	1	500000	500000	0.05
e	Silo extraction & packing plant	1	12012000	12012000	1.20
f	On line Stack dust monitor system	2	451350	902700	0.09
Total Cost					11.27
Air Pollution control measures in VRM area					
a	VRM Bag house cost	1	38616440	38616440	3.86
b	Packing plant bag filters CEMPPBF024	4	1160078	4640312	0.46
c	Reject building bag filter	2	920114	1840228	0.18
d	Feed group Bag filter	5	2735902	13679510	1.37
e	Bag filter transfer point	2	547070	1094140	0.11
f	On line Stack dust monitor system	1	1001596	1001596	0.10
Total Cost					6.09
Expenditure on belt covering, material storage sheds (Fugitive emission control measures)					
a	CSP Sheds (Tones)	265	66000	17490000	1.75
b	Gypsum Sheds (Tones)	550	66000	36300000	3.63
c	Belt Conveyor shed (Tones)	620	66000	40920000	4.09
Total Cost					9.47
STP (Sewage Treatment Plant) 60 KLD			2068776	2068776	0.21
Rain water harvesting			500000	500000	0.05
Paving /concreting of internal roads (Fugitive emission control measures)			41000000	41000000	4.10
Environment monitoring equipment's			552000	552000	0.06
Green belt development			4500000	4500000	0.45
Total Cost					4.86
Grand Total Cost on Environment					31.69

RECCURING COST INVESTMENT ON POLLUTION CONTROL MEASURES FROM Oct-2022 TO March-2023		
Sl. No	Description	Amount in Lakhs
1	Afforestation	14.0
2	Environment Monitoring	11.0
General Environment Management		
3	Bag Filter & Bag House Maintenance	74.0
4	STP Operation & Maintenance	6.0
5	STP Power Consumption	4.6
6	Environmental Awarness	2.3
7	Water Tanker for Sprinkling	5.6
Total		92.5
Grand Total		117.5
vii	A copy of clearance letter shall be sent by the proponent to concerned Panchayat, ZilaParishad/Municipal Corporation, Urban Local Body and the local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put. on the web site of the company by the proponent	EC receipt intimation was given to all the concerned authorities. EC letter is uploaded on our company website. http://www.jswcement.in/wp-content/uploads/EC-Transfer-4.0-MTPA-Cement-Vijayanagar.pdf
viii	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MOEFCC at Bangalore. The respective Zonal Office of CPCB and the SPCB, The criteria pollutant levels namely; PMIO S02,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 main gate of the company in the public domain.	EC compliance report is regularly uploaded on company website www.jswcement.in along with Environment monitoring reports. The Environment monitoring data are also regularly submitted to KSPCB, Regional office Bsiteellary & submitted to Regional office MoEF&CC on six monthly basis along with the compliance reports. Emission monitoring data are displayed at factory main gate of the company in the public domain.
		
ix	The project proponent shall also submit six monthly reports on the status of the compliance of the	Six monthly compliance reports are regularly submitted to Regional Office in

	stipulated environmental conditions including results of monitored data (both in hard copies as well as by-mail) to the Regional, Office of MoEF&CC, the respective Zonal Office of CPCB and the SPCB. The Regional Office of this Ministry at Bangalore/CPCB/SPCB shall monitor the stipulated conditions.	both hard copies as well as through mail. MOEF&CC, Zonal office CPCB and SPCB through mail as per, MOEF&CC Notification S.O.5845(E) dated 26.11.2018.
x	The environmental statement for each financial year ending 31 st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the respective Regional Office of the MOEFCC at Bangalore by e-mail	Last Environment Statement (Form –V) for the year 2021-2022 submitted to KSPCB on 29.09.2022. Environment statement is also uploaded on the company website and also submitted to Regional office MOEFCC at Bangalore through email.
xi	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 of Environment, Forest and Climate Change (MoEFCC) 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 the regional office at Bangalore.	Unit have advertised regarding grant of Environmental Clearance in local new papers (Kanada Prabha, Deccan Herald) which are widely circulated in the region and copy of the same was submitted to regional office, MOEFCC. Newspaper cutting of the advertisement
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%; border: 1px solid black; padding: 5px;"> <p style="text-align: center;">ಸಾರ್ವಜನಿಕ ಪ್ರಕಟಣೆ</p> <p>ಪರಿಸರ, ಅರಣ್ಯ ಮತ್ತು ಹವಾಮಾನ ಬದಲಾವಣೆ ಸಚಿವಾಲಯವು ತನ್ನ ಉಲ್ಲೇಖ ಸಂಖ್ಯೆ ನಂ. ಎಫ್. ನಂ. ಐಎ-ಜೆ-11011/540/2017-ಐಎ. II(I) ದಿನಾಂಕ 01.02.2018 4.0 ಎಮ್.ಟಿ.ಪಿ.ಎ. ಸ್ಲಾಜ್ ಗ್ರೈಂಡಿಂಗ್ ಮತ್ತು ಮಿಕ್ಸಿಂಗ್ ಘಟಕ (ಗಳು) 6.2 ಎಮ್.ಟಿ.ಪಿ.ಎ.ಗೆ ವರ್ಗಾಯಿಸಲು ಅನುಮೋದಿಸಿದೆ. ಎಮ್/ಎಸ್. ಜೆ.ಎಸ್. ಡಬ್ಲ್ಯೂ. ಸ್ಟೀಲ್ ಲಿಮಿಟೆಡ್. (ಮೂಲ ಕಂಪನಿ) ಜೆ.ಎಸ್. ಡಬ್ಲ್ಯೂ. ಸಿಮೆಂಟ್ ಲಿಮಿಟೆಡ್. (ಹೊಸ ಕಂಪನಿ). ಎನ್ವಿರಾನ್ಮೆಂಟಲ್ ಕ್ಲಿಯರೆನ್ಸ್ ಪ್ರತಿಯನ್ನು ಎಸ್.ಪಿ.ಸಿ.ಬಿ. ಜೊತೆ ಪತ್ರ ಲಭ್ಯವಿರುತ್ತದೆ. ಹಾಗೂ ಪ್ರತಿಯನ್ನು ಪರಿಸರ, ಅರಣ್ಯ ಮತ್ತು ಹವಾಮಾನ ಬದಲಾವಣೆ ಸಚಿವಾಲಯದ ವೆಬ್‌ಸೈಟ್‌ನಲ್ಲೂ ನೋಡಬಹುದು http://envfor.nic.in</p> </div> <div style="width: 45%; border: 1px solid black; padding: 5px;"> <p style="text-align: center;">PUBLIC NOTICE</p> <p>The Ministry of Environment Forest & Climate change Vide their letter No F.NO.IA- J-11011 /540/2017 -IA-II(I) dt 1.02.2018 have accorded to transfer the Environmental Clearance of 4.0 MTPA Slag Grinding and mixing unit(s) from Environmental Clearance granted to 6.2 MTPA Slag Grinding and Mixing units as a part of Integrated Steel Plant of M/s JSW Steel Limited (parent company) to M/s JSW Cement Limited (new company) (The copy of Environmental clearance letter is available with SPCB and may also be seen at website of the Ministry of Environment Forest & Climate change http://envfor.nic.in</p> </div> </div>		
xii	Project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	Date of financial closure:31.03.2018 Date of final approval:07.05.2018 Date of commencement of land development work: Nov.2006
xiii	M/s JSW Cement limited shall abide by all the commitments and recommendations made in the EIA/EMP report and that during presentation to the	Unit will abide by all the commitments and recommendations made in the EIA/EMP report and that during presentation to the

	EAC; commitments made during the Public hearing held on 30.12.2010 for Integrated Steel Plant	EAC; commitments made during the Public hearing held on 30.12.2010 for Integrated Steel Plant
xiv	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory	Noted and Agreed
xv	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
xvi	The PP shall ensure no change in the pollution load; and no conflict in sharing in common facilities in day to day operations	Noted and Agreed
xvii	All the liabilities regarding environmental issues of slag grinding unit will be the responsibility of the new company i.e. M/s JSW Cement Limited.	Noted and Agreed
xviii	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 along with their amendments and rules.	Noted and Agreed
xix	This Environmental Clearance is transfer of slag grinding and mixing unit (4.0 MTPA) which was part of Environmental Clearance vide J11011/489/2009-IA,II(I) dated 1 st October 2015 read with amendment in the EC vide letter of even no. dated 09 th June, 2016.	Noted
xx	Any appeal against this EC 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
xxi	The applicant shall Continue the self-monitoring system for monitoring the effluents and emissions.	Noted and Agreed
xxii	The applicant shall maintain register recording the ambient air quality, stack monitoring and analysis report of treated effluents. The register shall be open for inspection by the board officers at all time.	Unit is maintaining register to record the ambient air quality, stack emission and analysis of treated effluent. Register is open for inspection by board officers at all time.
xxiii	An inspection Book shall be opened and made available to the Board Officers during their visit to the factory	Unit have opened the inspection book and available to Board officials during their visit to factory premises
xxiv	The industry shall transport and store the raw materials in a manner so as not to cause any damage to environment, life and property. The applicant shall be solely responsible for any damages to environment.	Raw materials are stored in covered shed/silos. Tarpaulins are used during transportation of raw materials and finished products.

JSW CEMENT LIMITED
(JSWCL)

CORPORATE ENVIRONMENT POLICY

DOCUMENT CONTROL

Document version:

This Corporate Environment Policy (Policy) document is version 1.2

Preparation/Revision History

SR. No.	Date of preparation / modification	Version No.	Modified by	Reviewed by	Approved by
1	06/01/2015	1.1	Company Secretary	Executive Director	Board of Directors
2	25/10/2018	1.2	Company Secretary	Executive Director	Board of Directors

Issuing Authority

This policy is approved by the Board of the Company

Author and Responsible Official

This policy is to be maintained and updated by way of additions, deletions and modifications only by the Company Secretary after approval of the Board of Directors. Every time the policy document is edited, the version increases by one unit and the version is to be mentioned on every page.

Applicability and Usage

This policy applies to **JSW Cement Limited**. The Executive Director of the organization shall be authorised by Board to ensure the proper use of this document.



PREFACE

JSW Group, the \$13 billion conglomerate, is a part of the O.P. Jindal Group. With verticals that are exploring innovative and sustainable avenues in Steel, Energy, Infrastructure and Cement, JSW Group is paving the way for India's development as a global superpower.

- The company, JSW Cement Ltd. recognises its joint responsibility with the Government and the Public to protect environment and is committed to regulate all its activities so as to follow best practicable means for minimising adverse environmental impact arising out of its operations.
- The company is committed to making its products environmentally acceptable, on a scientifically established basis, while fulfilling consumers' requirements for excellent quality, performance and safety.
- The aim of the Policy is to do all that is reasonably practicable to prevent or minimise, encompassing all available knowledge and information, the risk of an adverse environmental impact arising from manufacturing and supply of our products.
- This Policy document reflects the continuing commitment of the Board for sound Environment Management of its operations. The Policy is applicable to all company operations covering manufacturing, mining, power generation, sales & distribution and other offices. This document defines the aims and scope of the Policy as well as responsibilities for the achievement of the objectives laid down.

The Vision

Our vision is to continue to be an environmentally responsible organisation making continuous improvements in the management of the environmental impact of our operations.

We will achieve this through an Integrated Environment Management approach which focuses on Technology & Best Practices and is supported by Management Commitment as the prime driver.

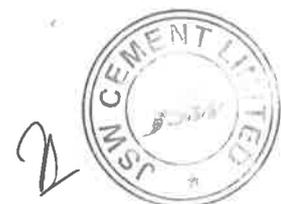
Environment Policy

JSW Cement Ltd. (JSWCL) is committed to meeting the needs of customers and other stakeholders at large in an environmentally sound manner, through continuous improvement in environmental performance in all its activities. Management at all levels, jointly with

employees, is responsible and will be held accountable for company's environmental performance.

Accordingly, JSWCL aims to:

- Protect the environment and prevent pollution through implementing Best Available technologies and practices
- Ensure safety of its products and operations for the environment by using standards of environmental safety, which are scientifically sustainable and commonly acceptable.
- Develop, introduce and maintain environmental management systems across the company to meet the company standards as well as statutory requirements relating to environment and verify compliance with these standards through regular auditing.
- Assess environmental impact of all its activities and set continual improvement objectives and targets and review these periodically to ensure that these are being met at the individual unit and corporate level.
- Reduce waste, conserve energy and explore opportunities for reuse and recycle.
- Optimum utilization of industrial waste as alternative raw materials and fuel to conserve natural resources
- Encourage efficient use of natural resources including energy, water and utilities, fuels, raw materials and food.
- Promote use of renewable energy
- Be a water positive unit by adopting rainwater harvesting in and around the facilities
- Integrate the consideration of environmental concerns and impacts at the design, planning and operational stages of our activities.
- Develop and maintain procedures/ processes to bring into focus any infringement/ deviation/ violation of the environmental or forest norms/ conditions to the Board of Directors and stakeholders at large
- Involve all employees in the implementation of this Policy and provide appropriate training. Provide for dissemination of information to employees on environmental objectives and performance through suitable communication networks.
- Encourage suppliers & service providers to develop and employ environmentally superior processes and ingredients and co-operate with other members of the supply chain to improve overall environmental performance.



- Work in partnership with external bodies and Government agencies to promote environmental care, increase understanding of environmental issues and disseminate good practices.

CORPORATE RESPONSIBILITIES

The Executive Director of the Company is responsible for the Compliance of the Policy. The Executive Director may constitute a Committee called as Corporate Environment Committee (hereinafter called as Committee). The Committee is committed to conduct the company operations in an environmentally sound manner. The Committee will:

- Set standards and establish environmental improvement objectives and targets for JSWCL as a whole and for individual units, and ensure these are included in the annual operating plans.
- Formally review environment performance of the company once every quarter.
- Review environment performance when visiting units and recognise exemplary performance.
- Nominate a unit head or senior employee as coordinator for compliance of environmental performance at the site.

The Committee, through the nominated coordinator will:

- Ensure implementation of Policy on environment and compliance with the Company's environmental standards and the standards stipulated under relevant national / local legislation. Where appropriate, apply more stringent criteria than those required by law.
- Assess environmental impact of JSWCL operations and establish strategies for sound environment management and key implementation steps.
- Encourage development of cleaner manufacturing processes to further raise the standards of environment performance.
- Establish appropriate management systems for environment management and ensure regular auditing to verify compliance.
- Establish systems for appropriate training in implementation of Environment Management Systems at work.
- Ensure that all employees are made aware of individual and collective responsibilities towards environment.
- Arrange for expert advice on all aspects of environment management.



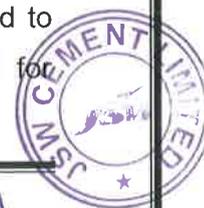
- Participate, wherever possible, with appropriate industry and Government bodies advising on environmental legislation and interact with national and local authorities concerned with protection of environment.

INDIVIDUAL UNITS RESPONSIBILITIES

The overall responsibility for environment management at each unit will rest with the unit head or senior employee, who will ensure implementation of Policy on environment at unit level and report to Executive Director or Committee as the case may be. Concerned line managers / heads of departments are responsible for environmental performance at department levels.

In order to full fill the requirements of the Policy at each site, the Unit Head will:

- Designate a unit environment coordinator who will be responsible for co-ordinating environmental activities at unit, collating environmental data and providing / arranging for expert advice.
- Agree with the coordinator responsible for the unit specific environmental improvement objectives and targets for the unit and ensure that these are incorporated in the annual objectives of the concerned managers and officers and are reviewed periodically.
- Ensure that the unit complies with JSWCL's environmental standards and the relevant national and state regulations with respect to environment.
- Ensure formal environmental risk assessment to identify associated environmental aspects and take appropriate steps to control risks at acceptable levels.
- Ensure that all new operations are subjected to a systematic and formal analysis to assess environmental impact. Findings of such exercises should be implemented prior to commencement of the activity.
- Manage change in people, technology and processes through a planned approach based on training, risk assessment, pre-commissioning audits and adherence to design norms.
- Regularly review environment performance of the unit against set objectives and targets and strive for continual improvement.
- Sustain a high degree of environmental awareness through regular promotional campaigns and employee participation through training, safety committees, emergency drills etc.
- Ensure dissemination of relevant information on environment within the unit and to outside bodies, and regularly interact with Government authorities concerned for protection of environment.



- Maintain appropriate emergency procedures consistent with available technologies to prevent / control environmental incidents.
- Provide appropriate training to all employees.
- Ensure periodic audits to verify compliance with environment management systems.
- Also ensure periodic 3rd party environment audits through certification bodies to check efficacy of the Environment Management Systems.
- Report environmental performance to committee on a monthly basis.

Nitesh Kaurvekar





JSW Cement Ltd

P.O. Vidyanagar, Tq : Sandur,
Dist. Ballari - 583275 Karnataka, India
Phone : 08395-241001
Fax : 08395-241003
Website : www.jsw.in

CIN - U26957MH2006PLC160839

To,
Regional Officer
Karnataka State Pollution Control Board,
Sy No. 597P, Ward No. 25,
4th Main Road, Near Dr. Vishnuvardhana Park,
Kuvempunagar, Bellary – 583104.

Date: 27/09/2022

Dear Sir,

Sub: - Submission of Environment Statement in Form-V for 4.0 MTPA cement grinding unit of JSW Cement Limited, reg.

Ref: - **Combined Consent Order No AW-329792, dated 16.02.2022.**

Environmental Clearance No: IA-J-11011/540/2017-IA-II(I) dated 01.02.2018

With reference to the above subject, please find enclosed here with the Environment Statement in Form-V for the financial year 2021-2022 for 4.0 MTPA cement grinding unit of **M/s JSW Cement Limited.**

Thanking You,

Yours Faithfully,
For JSW Cement Ltd


Rajkumar Dhempe
Plant Head

Copy to:
Member Secretary,
Karnataka State Pollution Control Board
#49, 4th & 5th floor
Parisara Bhavan, Church Street
BENGALURU-560001



Part of O.P. Jindal Group

Regd. Office: JSW Center,
Bandra Kurla Complex,
Bandra (East), Mumbai 400051
Phone: 022-42461000
Fax : 022-26502001

**ENVIRONMENT STATEMENT REPORT
(Form-V)**

[Year 2021 - 2022]

REPORT BY



**(JSW Cement Ltd, Vijayanagar Works)
Cement Grinding Unit
Vidyanagar (P.O) Toranagallu (V), Sandur (Tq)
Bellary - 583275**

INTRODUCTION

Man is a part of nature, and not separate or independent; at the same time, man is unique in the influence he has over nature. Man derives all his food, clothing, shelter, and other amenities from nature. In that process, if he does not take care to protect and cherish nature, but decrease or destroys, he will find that his own life and that of his children is in jeopardy.

The environment, a word as it stands today is not simple; it is not a fashionable word, but has got established definitions incorporates limitless complexities, bear definite power to put everybody under a flood of worries and pushes us to plan for betterment with minimum problems. The environment is now catching for all, the industry, the government, the people. Hence, it is joint responsibility to protect, preserve the environment and avoid the perishing the natural treasures. At this critical junction of time and efforts, the Indian industry has fulfilled its commitment in maintaining the environmental integrity.

JSW Cement Limited considers itself responsible for Environment and Society. We are committed to emission reduction, climate protection, effective energy management, responsible use of resources and its conservation keeping in mind that **“Today’s Need – Future of Our Children”**.

The next few pages of this Environment Statement Report (ESR) of JSW Cement Limited is based on actual data and verified record, will present a picture of more optimism for environmental care than ever before.

JSW Cement Ltd: is the new diversification foray of JSW Group, a part of US \$ 14 billion Group, has grown into various core economic sectors – Steel, Energy, Cement, Infrastructure, Paints and IT. The group has plants located in various parts of the world.

JSW group is fast adding capacity in steel and power manufacturing. As a result, large quantity of slag and fly ash is being generated, disposal of which caused serious problem. In order to use both these waste materials i.e. slag and fly ash, cement manufacturing is one of the best options. Slag can be used as much as 50 - 70% of clinker in cement manufacturing while fly ash is limited to be used maximum up to 35%, usually restricted to 30%.

JSW Cement's first plant was set up at Vijayanagar, District Bellary in Karnataka with a capacity of 0.60 million tonnes per annum in 2008, enhanced cement plant 3.60 MTPA in the year 2017 and again enhanced cement plant 4.0 MTPA in the year 2019. The plant uses the latest German Technology supplied by M/s KHD Humbolt Wedag. JSW Cement is a slag based blended cement, manufactured by using granulated blast furnace slag from the Group's steel plant and manufacturing Composite Cement by using fly ash from the Group's energy plant, saving valuable natural resources. This is a giant step by the company towards providing cement that is strong, durable and at the same time eco-friendly.

Besides producing Portland Slag Cement (PSC), the company also manufactures Ground Granulated Blast Furnace Slag (GGBS) and Composite Cement. GGBS is preferred by almost all concrete manufacturers across South India as an additive material for cement for better quality concrete. In order to achieve consistency in product quality, we have for the first time in the world adopted the technology of grinding both raw materials as well as cement by using Combi Flex Roller Press in finished mode with dynamic separator. This facility enables us to produce and supply much finer and uniform quality cement. The company has pioneered a modern plant for the first time in the world that uses Combi finish mode Roller Press Circuit for grinding and manufacturing both PSC and GGBS.

The slag cement and composite cement not only preserves the natural resources but also helps in improving the Durability of the Concrete Structures. Use of Slag Cement to produce Concrete can significantly improve durability of the concrete in several ways and consequently extend the life of concrete structures. During the life of the structure, the compressive strength of Slag Cement significantly increases well beyond the 28 days

specified strength more than the concrete made from OPC or PPC. Slag Cement has higher resistance to sulphate and chloride attack and also controls the expansion due to Alkali- Silica Reaction hence it is recommended for marine structures.

The dust emitted from various machines is controlled by state of art air pollution control equipments provided such as bag house and bag filters. The emission sources in the cement plant are mainly process dust emission and fugitive dust emissions.

Water Pollution is virtually absent in the cement plant as no liquid were generated from the manufacturing process. The water is used for cooling the machines/parts of the machines. A WTT - Cooling water tower is being maintained for the circulation of water for the entire plant. The major area of domestic water consumption inside the plant is for drinking, toilet, for canteen use. Domestic waste water is treated in STP and treated water is used in dust suppression & Green Belt Development.

The policy for the abatement of pollution by the government of India provides for submission of environment statement by all the industries. Environmental Statement is therefore an output of Environmental Audit.

So an effort has been made in this report to explain Environmental Statement for the financial year 2020-2021 ended 31st March 2020 as per Government of India notification GSR 329 (E), dated 13th March 1992 and amendment to Environmental (Protection) Rules 1986 and subsequent amendment there on.

ENVIRONMENTAL STATEMENT REPORT

[FORM-V]
(See rule 14)

PART-A

Name and address of the owner/
Occupier of the industry : Nilesh Narwekar
Director & CEO
JSW Cement Limited, Vijayanagar
Works, Vidyanagar (P.O),
Toranagallu (V), Bellary (District)
Karnataka-583275

Operation process : Production of Cement

i. Industry category: Primary- (STC code) : Red category
Secondary- (STC code)

ii. Production category-units : 4.0 MTPA (Cement Grinding Unit)
(Portland Slag Cement, Ground
Granulated Blast Furnace Slag and
Composite Cement

iii. Year of establishment : 2008

iv. Date of last environmental statement submitted : 29.09.2021

PART-B

Water is from JSW Steel is the major source of water for this plant. Due to moderate rainfall in this region there is always drastic variation in the yield of water from these sources and almost this area is suffering from water shortage. In this view company is also operating a Sewage Treatment Plant to treat the entire domestic waste water of the factory and recycled and reused for dust suppression, and also for watering the tree plants and gardening for abatement of pollution in the area.

The water consumption for 2021-2022 is shown the table given below and the consumption of water is measured with the help of water meters which are installed at different points of sources.

The Raw material consumption and Cement production are tabulated as shown in the (*Annexure - 1*).

(i) Water Consumption (m³/day):

Particulars	During Previous Financial Year (2020-2021)	During Current Financial Year (2021-2022)
Process Cooling	251.98	283.49
Domestic	32.89	41.64

Name of products	Process water consumption per unit of products output (m ³ /ton)	
	During the previous financial year (2020-2021)	During the current financial year (2021-2022)
GGBS	0.042	0.022
PSC	0.039	0.037
OPC	0.030	0.020
CC	0.037	0.029
PPC	0.025	0.025

(ii) Raw material consumption: MT

Name of raw materials	Name of products	Consumption of raw material per unit of (Cement) output	
		During the previous financial year (2020-2021)	During the current financial year (2021-2022)
Clinker	PSC/ GGBS/CC/OPC	0.150	0.158
Gypsum		0.009	0.010
Slag		0.843	0.869
Fly Ash		0.023	0.020

Name of raw materials	Name of products	During the previous financial year (2020-2021)	During the current financial year (2021-2022)
OPC	PSC Blending	281302.28	274803.8
GGBS		365716.89	373089.5

Name of raw materials	Name of products	During the previous financial year (2020-2021)	During the current financial year (2021-2022)
PPC	CC Blending	93167.66	56599.8
GGBS		26056.94	12423.7

PART-C

The impact of the cement plant pollution on the environment is limited to its immediate surrounding areas. In reality dust pollution is the only environmental problem in & around the plant. Although the dust produced while manufacturing of cement is nontoxic, nonflammable and non-corrosive. It does constitute a nuisance to a little extent. So the company has adopted several technological measures to completely avoid to the possible extent of the dust emissions at the source itself.

Water pollution is virtually absent as no liquid is generated during manufacturing process. The water here is used for cooling the machines/parts of the machine. A WTP – Cooling Tower is being maintained for the circulation of water for the entire plant. The major area of domestic water consumption inside the plant is for domestic (Drinking, Toilet, Colony and for Canteen use).

The company is monitoring the dust level concentration at all the emission sources by batch sampling technique. The quantity of pollutants discharged are calculated an average emission level taken from monthly stack monitoring reports.

Pollution discharged to environment/unit of output:
(Parameter as specified in the consent issued). *Annexure-2*

(i) Pollutants	Quantity of pollution discharged (mass/day)		Concentrations of pollutants in discharges (mass/volume)		Percentage of variation from prescribed standards with reasons
(a) Water	No Waste water is generated from the Cement Process				
(b) Air	kgs/day		mg/Nm ³		No deviation
	VRM - PM	59.8	VRM - PM	21.3	
	RP1&2 - PM	111.9	RP1&2 - PM	23.4	
	RP3&4 - PM	119.2	RP3&4 - PM	23.3	

PART-D

Hazardous Wastes

[As specified under Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008]

Hazardous Wastes		Total Quantity	
		During the Previous Financial year (2020-2021)	During the Current Financial year (2021-2022)
(a) From Process	(a) Used Oil (Category 5.1)	Nil	Nil
	(b) Oil Soaked Cotton Waste (Category 5.2)	Nil	0.5 MT
(b) From Pollution control Facilities	NA	Nil	Nil

The Waste oil generated at different sections in the plant is being collected in the hazardous waste oil platform especially made for the purpose. Waste oil so collected in the leak proof container (M.S. Barrels) is being sold to the authorized reprocessors/recyclers.

New Batteries purchased from the dealers/agency during the period April-2021 to March-2022 Form VIII has been submitted.

PART-E

Solid Wastes	Total Quantity (Cement Mill Bag house Dust)	
	During the previous financial year (2019-2020)	During the current financial (2020-2021)
(a) From process	No Solid Waste is generated from Process	No Solid Waste is generated from Process
(b) From pollution control facility	Collected materials in Baghouse and Bag filters have	Collected materials in Baghouse and Bag filters
(c) Quantity recycled or re-utilized	100%	100%

PART-F

Please specify the characteristics (in terms of composition of quantum) of Hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

Hazardous waste:

- As per Hazardous and other wastes (management and transboundary movement) rules 2016, hazardous waste generated in the industry are of two types i.e., is 5.1 Used oil and 5.2 Oil soaked cotton waste. All of these generated wastes are stored on the concrete platform in designated location and disposed to KSPCB/CPCB authorized vendors. (*Annexure-3*)

Solid waste:

- Solid waste in the industry is generated from the pollution control facilities and is been recycled.
- There is no solid waste generated during the process of cement manufacturing.
- Refractory bricks of hot air generation and Mild steel scrap generated is disposed to party for further use/ recycling.
- Sludge generated from the STP was utilized as manure after drying and composting along with garden waste.
- Energy Bin Sludge was utilized as manure and used in Green belt development

PART-G

Impact of pollution abatement measures taken on conservation of natural resources and on the cost of production.

- Cement Production is being operated on dry process technology, which is cost effective and environmentally clean technology. The advantage of dry process is also in fuel economy. The stack emissions from the plant are controlled by equipment like Bag Houses & Bag Filters are installed at various material transfer points and to arrest the fugitive emissions. The particulate matter collected in the pollution control equipment is recycled in process. *(Annexure-4)*
- Raw materials are being stored covered yard. *(Annexure-5)*
- ~~The conveyor belts are fully covered and installed bag filters at transfer points for arresting the fugitive emissions. *(Annexure-6)*~~
- Clinker, Fly ash and cement is being stored in silos.
- Water sprinkling for dust suppression on the road, truck & bulker parking area and clinker unloading area in and around the plant is being done. *(Annexure-7)*
- STP treated water used for the plantation purpose and dust suppression. *(Annexure-8)*
- Rainwater harvesting Tank has been constructed at the plant area, for recharging ground reduce the consumption of surface water. *(Annexure-9)*
- Development of extensive green belt in and around the plant. *(Annexure-10)*

PART-H

Additional measures/investment proposal for environmental protection including abatement of pollution, prevention of pollution

- Continuous efforts are always being made to maintain the environment clean and dust free and we have upgraded pollution control systems and also adequate quantity of Pollution Control Equipment I.e. Bag House, Water Sprinkler, STP, Green Belt Development.
- Regularly we are monitoring ambient air quality, Noise level and stack monitoring & water analysis.
- Online Continuous Emission Monitoring system installed for 03 nos of Stacks and continuous ambient air quality monitoring system installed surrounding boundary zone by steel. *(Annexure-11)*
- Construction of concrete in parking area inside the plant to reduce fugitive dust emission in Phase manner.
- Scheduled maintenance and monitoring of all Air Pollution Control Device's (APCD'S) like Bag Filters and Bag House are being regularly undertaken to ensure their efficient operations in order to keep emissions level within the prescribed limit.
- Rain Harvesting ponds of capacity 40000 litres are constructed for harvesting rain water during rainy season and utilized for green belt or ground water recharge.
- Green belt development and tree plantation is our on-going process. We are doing new plantation to increase the bio-diversity of the area.

- Total plant area is 150 acres out of which plantation will be done in 33% area which is 49.5 acres. Presently 19419 nos of plants and 39786 nos of shrubs in 22 acres have been planted inside the plant.
- Deployment of Sweeping Machine for cleaning the internal road for controlling fugitive emission.

PART- I

Any other particular in respect of environmental protection and abatement of pollution

- JSW Cement Limited has implemented of ISO 14001:2015 EMS and compliance monitored through periodic management review & internal and external audits. (*Annexure-12*)
- Awareness programs like plantation activities, Slogan competition, drawing competition & Essay competition was organized for Employees & Families of Employees for awareness on environment protection on 5th June (World Environment Day). (*Annexure-13*)
- Improvement in Ambient Air Quality through effective control on fugitive dust emission.
- Extensive green belt is being developing surround the boundary & inside plant premises.
- Distribution of saplings, tables through CSR activities in the schools of surrounding villages.

Raw Material Consumption Financial Year 2021-2022 (*Annexure-1*).

Raw Material Consumption	
Raw Material	Quantity (MT)
Clinker	512809.11
Slag	2640022.2
Gypsum	32586.94
Fly ash	64071.54

Production Report Financial Year 2021-2022

Production	
Product	Quantity (MT)
GGBS	2578931.6
PSC/C.HD/Power Pro	965996.8
CC	268850.6

Power Consumption Plant for the Year 2021-2022.

Power Consumption		
Apr-2021 to Mar-2022	Units	104522934.13

Ambient Air Quality Report (Annexure-2)

Ambient Air Quality Report for the year 2021-2022															
Location	Parameters	Limits	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Unit: µg/m ³
Near Main Gate (A1)	PM(10) (µg/m ³)	100µg/m ³	66.5	65.9	65.8	66.1	66.3	64.9	64.2	66.5	4.3	54.3	61.3	65.7	63.48
	PM(2.5) (µg/m ³)	60µg/m ³	23.2	21.3	21.6	19.8	21.7	18.4	18.8	23.9	20	20	22.3	22.3	21.11
	SO ₂ (µg/m ³)	80µg/m ³	10.8	11.8	11.7	11.6	10.5	10.5	10.5	12.6	9.6	9.6	10.4	11.9	10.96
	Nox (µg/m ³)	80µg/m ³	18.2	16.5	18.7	17.2	17	15.1	14.3	19.2	3.8	13.8	13.9	14.8	16.04
Near Back Gate (A2)	PM(10) (µg/m ³)	100µg/m ³	62.4	60.8	62.3	62.7	63.7	59.8	56.9	63.7	52	52	61.6	63.5	59.98
	PM(2.5) (µg/m ³)	60µg/m ³	20	19.2	18.4	20	19.5	16.1	17.1	21.1	7.7	17.7	22.7	21.3	19.06
	SO ₂ (µg/m ³)	80µg/m ³	9.3	9.9	9.1	9.8	9.2	8.7	9.5	10.9	4.9	8.9	10.5	10.2	9.58
	Nox (µg/m ³)	80µg/m ³	16.3	15.1	15.2	15.5	14.9	13.4	13	16.3	3.2	13.2	14.6	13.9	14.55
Near Main Stores (A3)	PM(10) (µg/m ³)	100µg/m ³	67	63.7	63.8	63.5	62.7	62.3	61	62.5	4.5	52.5	60.4	63.2	61.43
	PM(2.5) (µg/m ³)	60µg/m ³	22.9	20.5	20.6	20	18.8	17.5	18.5	20.2	9.9	19.9	22.8	22.5	20.34
	SO ₂ (µg/m ³)	80µg/m ³	10.6	11.3	11.4	10.4	9.2	9.4	10.4	10.4	9.8	9.8	10.6	10.1	10.28
	Nox (µg/m ³)	80µg/m ³	18.4	16.5	16.5	15.9	14.8	13.8	14.4	15.2	4.3	14.2	14.3	13.5	15.15
Near Chiller Room (A4)	PM(10) (µg/m ³)	100µg/m ³	63.3	64.7	65.7	61.2	60.3	60.3	61.8	62.3	2.5	63.6	59.1	65.3	62.51
	PM(2.5) (µg/m ³)	60µg/m ³	19.8	20.2	20.7	18.3	18.7	16.3	16.6	20.7	0.1	20.3	22.7	23.2	19.80
	SO ₂ (µg/m ³)	80µg/m ³	9.8	10.6	10.2	9.3	8.6	9.0	9	10.4	9.8	9.6	10.5	10.6	9.78
	Nox (µg/m ³)	80µg/m ³	16.6	16	16.2	14.7	13.5	13.1	13.1	15.9	6.8	16.4	14	15.1	15.12

Stack Emission Monitoring Report

Stack Emission Monitoring Report (Apr-2021 to Mar-2022)														
Stack	Parameters	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Avg
VRM Bag House Stack	Particulate Matter (mg/Nm ³)	18.6	22.8	21.4	20.5	19.8	18.9	21.95	18.6	21.55	25.05	21.55	21.05	21.3
	Particulate Matter (mg/Nm ³)	22.1	28.3	25.2	22.9	23.4	21.0	22.35	21.45	20.3	27.5	21.8	25.0	23.4
RP 3&4 Bag House Stack	Particulate Matter (mg/Nm ³)	23.8	27.5	24.8	20.0	20.8	20.9	19	22.6	4.1	26.0	22.5	26.75	23.2

AMBIENT NOISE LEVEL (PLANT) [Leq Value in dB(A)]

Noise Level Monitoring Report (2021-2022)																						
Avg in dB(A) Leq																						
	Apr-21		May-21		Jun-21		Jul-21		Aug-21		Sep-21		Nov-21		Dec-21		Jan-22		Feb-22		Mar-22	
Locations	Day	Night																				
Near Main Stores	61.7	57.7	70.8	66.9	65.8	63.4	54.2	55.6	48.1	40.6	57.3	52.5	69.3	66.1	66.9	62.6	66.9	62.6	58.8	48.5	65.7	60.5
Near Main Gate	65.8	57.7	70.9	65.6	62.5	57.7	68.8	58.2	48.5	37.4	55.5	50	68.8	65.9	65.8	60.2	65.8	60.2	69.9	61.8	56.6	51.7
Near Back Gate	66.7	62.7	65.8	64.1	66.7	61.4	72.4	66.3	46.7	37.1	56.5	50.7	69.3	65.9	67.8	63.3	67.8	63.3	62.6	54.7	44.3	40.6
Near Chiller Room	65.8	60.9	70.8	66.6	62.6	59.3	62.3	59.6	47.5	40.5	61.9	57.7	70.7	67.2	65.7	62.8	65.7	62.8	63.6	54.9	69.6	62.9

Details of Pollution Control Measures installed at various location (Annexure-4)

S. No.	Location of PCM	PCM
1	Vertical Roller Mill	Bag House
2	Roller Press 1 & 2	Bag House
3	Roller Press 3 & 4	Bag House
4	Clinker Silo	Bag Filter
5	Cement Silo (5 no's)	Bag Filter
6	Fly ash Silo	Bag Filter
7	Packing House	Bag Filter
8	All transferring points of raw material handling and product	Bag Filter
9	Sewage treatment plant for domestic sewage	Sewage treatment plant (60 KLD)
10	Green belt development in the premises	Green belt development

Raw materials are being stored covered yard (Annexure-5)



Conveyor belts are fully covered and Installed bag filters at all transfer points (Annexure-6)

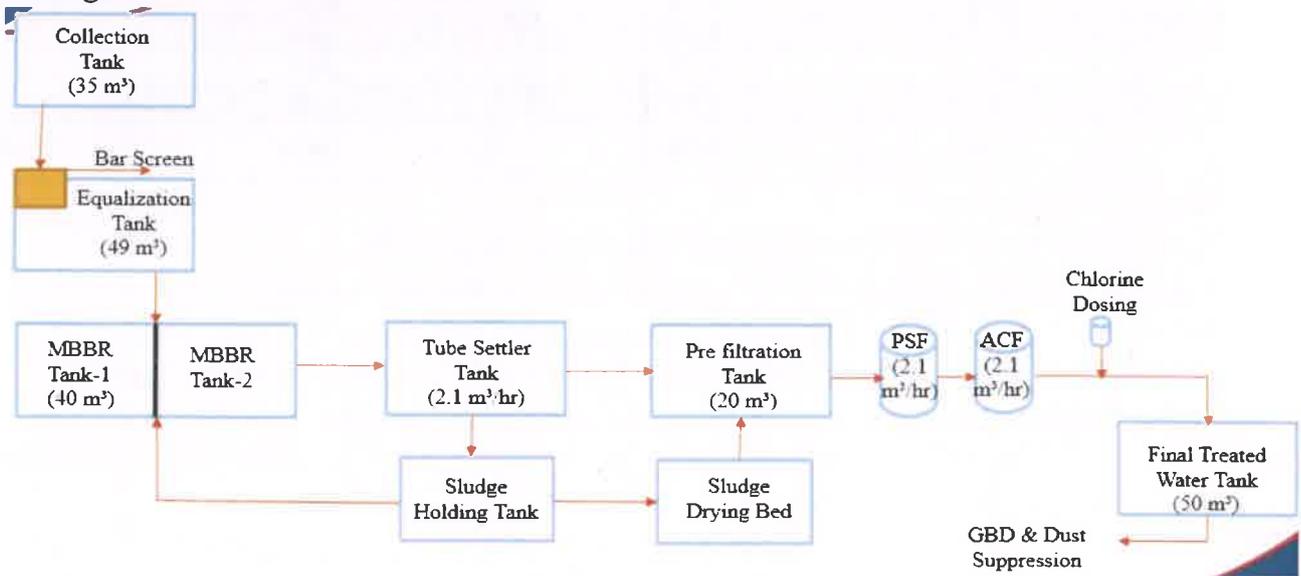




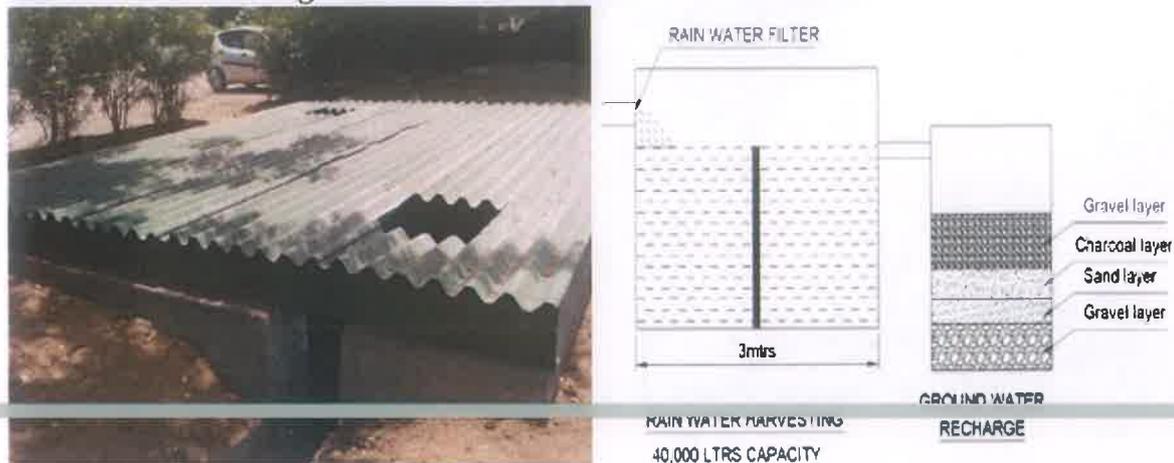
Water sprinkling for dust suppression (Annexure-7)



Sewage Treatment Plant (Annexure-8)



Rainwater harvesting Tank for water conservation (Annexure-9)



Green belt development (Annexure-10)

Year wise plantation at Plantation

S.No.	Year	No. of Shrubs Plantation	No. of Trees Plantation	Lawn area in Sqmt
1	2009-10	500	500	-
2	2010-11	1000	1000	-
3	2011-12	2000	1000	-
4	2012-13	2000	1000	-
5	2013-14	2500	1200	-
6	2014-15	1500	1000	-
7	2015-16	1500	300	-
8	2016-17	1500	220	-
9	2017-18	6750	326	637
10	2018-19	7850	5297	2030
11	2019-20	4233	1248	1080
12	2020-21	3768	2048	300
12	2021-22	4685	4280	00
	Total	39786	19419	4047

Total area: 150 acres.

Total area of Green Belt Development: 45 acres (Until jul 2021)

Types of Species planted: Tecomo goudichoudi , Nerium pink oberoy, Tabernamopntana Single, Cizelpenia, Alstonia, Pheltophorum, Neem, Samanea Saman, Ficus Regenald, Areca Plam, Conocarpus, Tacoma stans, Nerium oleander, Tabibia Rosea, Gulimor, Cardia, Banumia, Ficus banjamine, Tree Jasmine, Raintree, and Teak.



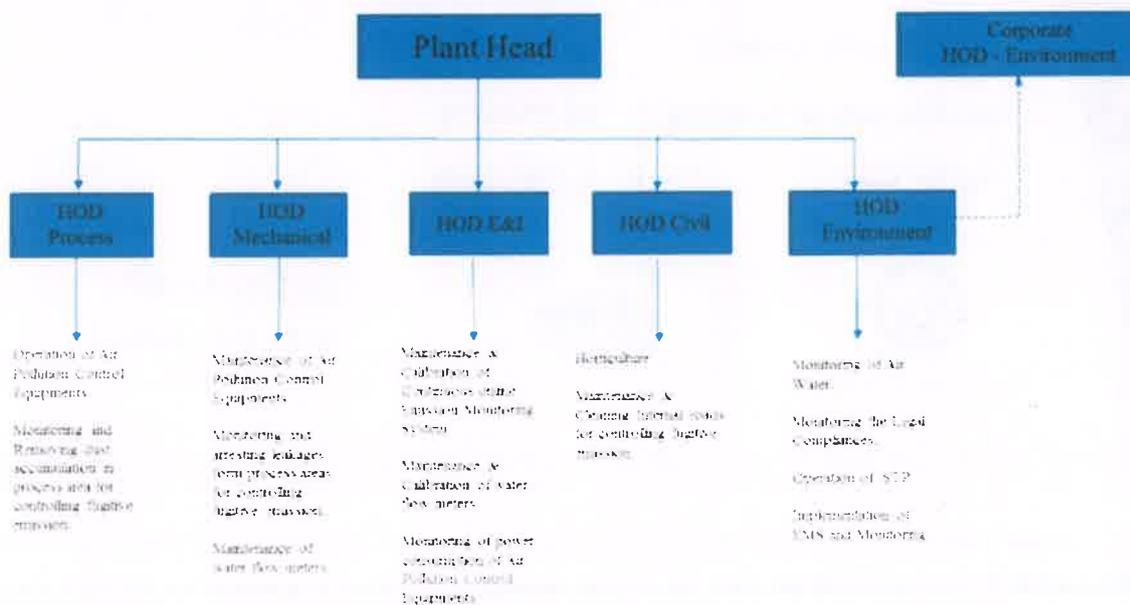




Online Continuous Emission Monitoring System and data is displayed near main gate (Annexure-11)



Details of Environmental Cell



Environment Management System ISO 14001:2015 (Anexure-11)



CERTIFICATE OF APPROVAL

Issued by Indian Register Quality Systems
(A Division of IRCLASS Systems and Solutions Private Limited)

This is to certify that the Environmental Management Systems of

Organisation: JSW Cement Limited

Address: Vijayanagar Works:
Vidaynagar (P.O),
Toranagallu (V), Sandur (Tq),
Bellary, Karnataka - 583 275

has been assessed and found conforming to the following requirement

Standard: ISO 14001:2015

Scope: Manufacturing of Portland Slag Cement (PSC), Ground Granulated Blast Furnace Slag (GGBS), Ordinary Portland Cement (OPC), Composite Cement (CC), Dry Mix Mortar (DMM) & Screen Slag

Certificate No.: IRQS/220300582

Initial Certificate Date : 21/05/2013

Current Date of Granting : 04/05/2022

Expiry Date : 03/05/2025



Shashi Nath Mishra
Head IRQS

This approval is subject to continued satisfactory maintenance of the Environmental Management Systems of the organization to the above standard which will be monitored by IRQS. The use of the Accreditation Mark indicates accreditation with respect to activities covered by the certificate with accreditation no. 0371, Condition Overhaul
IRQS/220300582

Head Office: 52A, Adi Shankaracharya Marg, Opp. Powai Lake, Powai, Mumbai - 400 072, India.

Corporate Environment Policy

JSW Cement Ltd. (JSWCL) is committed to meeting the needs of customers and other stakeholders at large in an environmentally sound manner, through continuous improvement in environmental performance in all its activities. Management at all levels, jointly with employees, is responsible and will be held accountable for company's environmental performance.

Accordingly, JSWCL aims to:

Protect the environment and prevent pollution through implementing best available technologies and practices.

Ensure safety of its products and operations for the environment by using standards of environmental

Develop, introduce and maintain environmental management systems across the company to meet the company standards as well as statutory requirements relating to environment and verify compliance with these standards through regular auditing.

Assess environmental impact of all its activities and set continual improvement objectives and targets and review these periodically to ensure that these are being met at the individual unit and corporate level.

Reduce waste, conserve energy and explore opportunities for reuse and recycle.

Optimum utilization of industrial waste as alternative raw materials and fuel to conserve natural resources

Encourage efficient use of natural resources including energy, water and utilities, fuels, raw materials and food.

Promote use of renewable energy

Be a water positive unit by adopting rainwater harvesting in and around the facilities

Integrate the consideration of environmental concerns and impacts at the design, planning and operational stages of our activities.

Develop and maintain procedures/ processes to bring into focus any infringement/ deviation/ violation of the environmental or forest norms/ conditions to the Board of Directors and stakeholders at large

Involve all employees in the implementation of this Policy and provide appropriate training. Provide for dissemination of information to employees on environmental objectives and performance through suitable communication networks.

Encourage suppliers & service providers to develop and employ environmentally superior processes and ingredients and co-operate with other members of the supply chain to improve overall environmental performance.

Work in partnership with external bodies and Government agencies to promote environmental care, increase understanding of environmental issues and disseminate good practices.

CAPITAL COST INVESTMENT ON POLLUTION CONTROL MEASURES UP TO 31st March 2020					
Sl. No	Description	Qty	Unit Rate	Total in Lakhs	Total in Crores
Air Pollution control measures in RP mill area					
a	Bag House RP mill area	4	19679100	78716400	7.87
b	Bag Filter (KIID)	2	7690400	15380800	1.54
c	Bag Filter (Rieco)	1	5200000	5200000	0.52
d	Beumer	1	500000	500000	0.05
e	Silo extraction & packing plant	1	12012000	12012000	1.20
f	On line Stack dust monitor system	2	451350	902700	0.09
Total Cost					11.27
Air Pollution control measures in VRM area					
a	VRM Bag house cost	1	38616440	38616440	3.86
c	Reject building bag filter	2	920114	1840228	0.18
d	Feed group Bag filter	5	2735902	13679510	1.37
e	Bag filter transfer point	2	547070	1094140	0.11
f	On line Stack dust monitor system	1	1001596	1001596	0.10
Total Cost					6.09
Expenditure on belt covering, material storage sheds (Fugitive emission control)					
a	CSP Sheds.(Tones)	265	66000	17490000	1.75
b	Gypsum Sheds (Tones)	550	66000	36300000	3.63
c	Belt Conveyor shed (Tones)	620	66000	40920000	4.09
Total Cost					9.47
STP (Sewage Treatment Plant) 60 KLD			2068776	2068776	0.21
Rain water harvesting			500000	500000	0.05
Paving /concreting of internal roads (Fugitive emission control measures)			41000000	41000000	4.10
Environment monitoring equipment's			552000	552000	0.06
Green belt development			4500000	4500000	0.45
Total Cost					4.86
Grand Total Cost on Environment					31.69

RECURRING COST INVESTMENT ON POLLUTION CONTROL MEASURES FROM APRIL-2021 TO March-2022		
Sl. No	Description	Amount in Lakhs
1	Afforestation	13.5
2	Environment Monitoring	13.9
General Environment Management		
3	Bag Filter & Bag House Maintenance	54.0
4	STP Operation & Maintenance	6.0
5	STP Power Consumption	4.6
6	Environmental Awareness	2.3
7	Water Tanker for Sprinkling	14.0
Total		1099.8
Grand Total		1127.2

World Environment Day Celebration -2022 JSW
JSW Cement Limited, VJNR Works



We are reviving our

#Only
#One
#Earth

JSW Cement
Sustainable Choice

World
eco-friendly
responsibility

JSWCL always advocate Green Environment and Preservation of nature, everyone must be aware that the technology used in our process also supports green environment. JSWCL promoters of Green India; our process units are well Equipped with latest technology equipments that consumes less energy and water. And also Using by-products as raw materials preserving the Nature, Mineral resources. Producing less CO2 Emission.

World Environment Day:
 World Environment Day is an opportunity for all of us to get involved in a move which is critical for our shared future and work in a co-ordinated manner to empower all of us to play an active role in protecting our environment.

Theme of World Environment Day 2022 "Only One Earth"

Why Environment Day is celebrated ?

It is opportunity to share your ideas and activities for making our world cleaner, greener, and brighter.

Talking about the environment only on this day and forget about it for the rest of the year would not help. We need to be aware and strive to make changes in our daily activities. No matter how big or small your action may be every input counts, which in turn will help us in saving our world from deteriorating further from

- Pollution
- Environmental degradation
- Resource waste

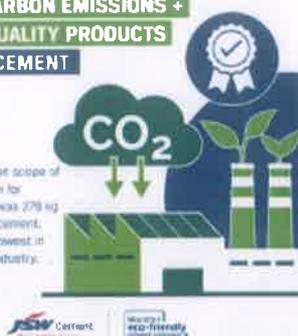


JSWCL have organized all the events from 15th May 2022 to 30th May 2022 inside the plant.

June 8th 2022 JSW Cement Limited Celebrated World Environment Day along with Employees & Associate Employees to create awareness among surroundings regarding Environment Protection.

**LOW CARBON EMISSIONS +
HIGH QUALITY PRODUCTS
= JSW CEMENT**

In 2021, the net scope of CO₂ emission for JSW Cement was 279 kg CO₂/tonne of cement, which is the lowest in the cement industry.



The agenda for the day was:



Welcoming Senior Environment Officer KSPCB, Bellary as Chief Guest, Plant Head JSWCL-VJNR Works, Environment Head JSWCL-VJNR Works



Program Started by Watering the Plant





Distribution of Prizes for Winners in Events



Encourage ideas – have contest to seek ideas from employees that will lead to a cleaner, leaner organization



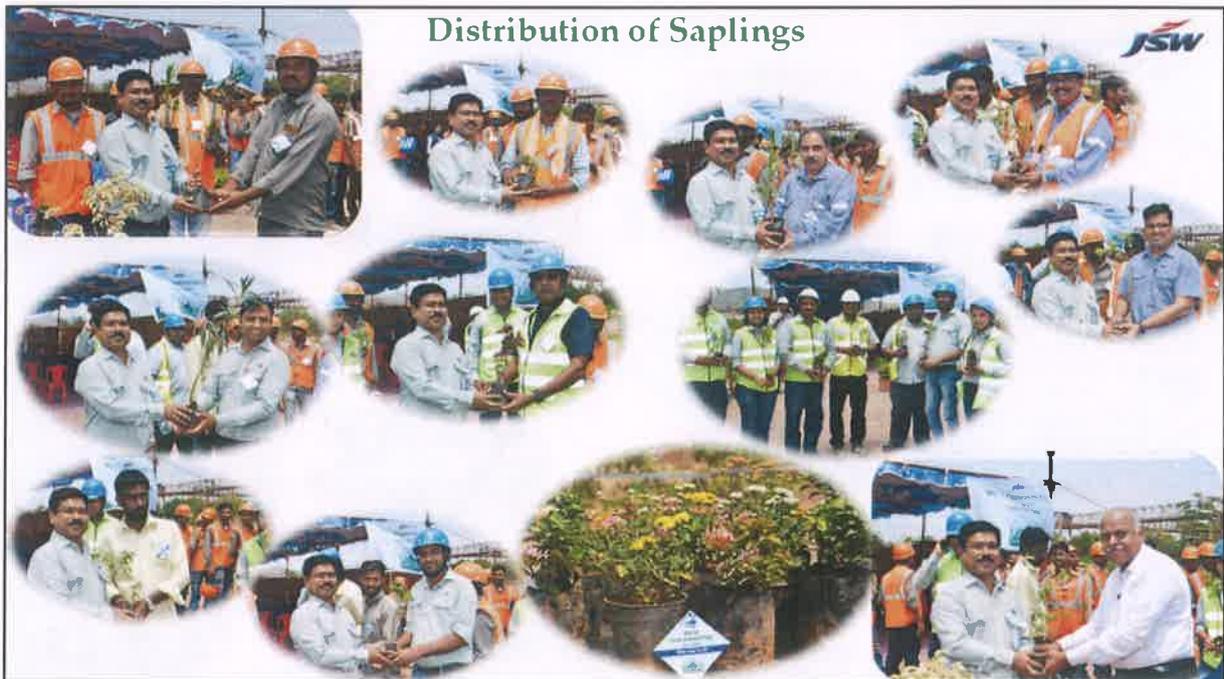
Do Something Wonderful, people may imitate or awarded

Planting of Saplings



*Grow the plants around the industries wherever it is possible to add more greenery to the land
make it eco-friendly.*

Distribution of Saplings

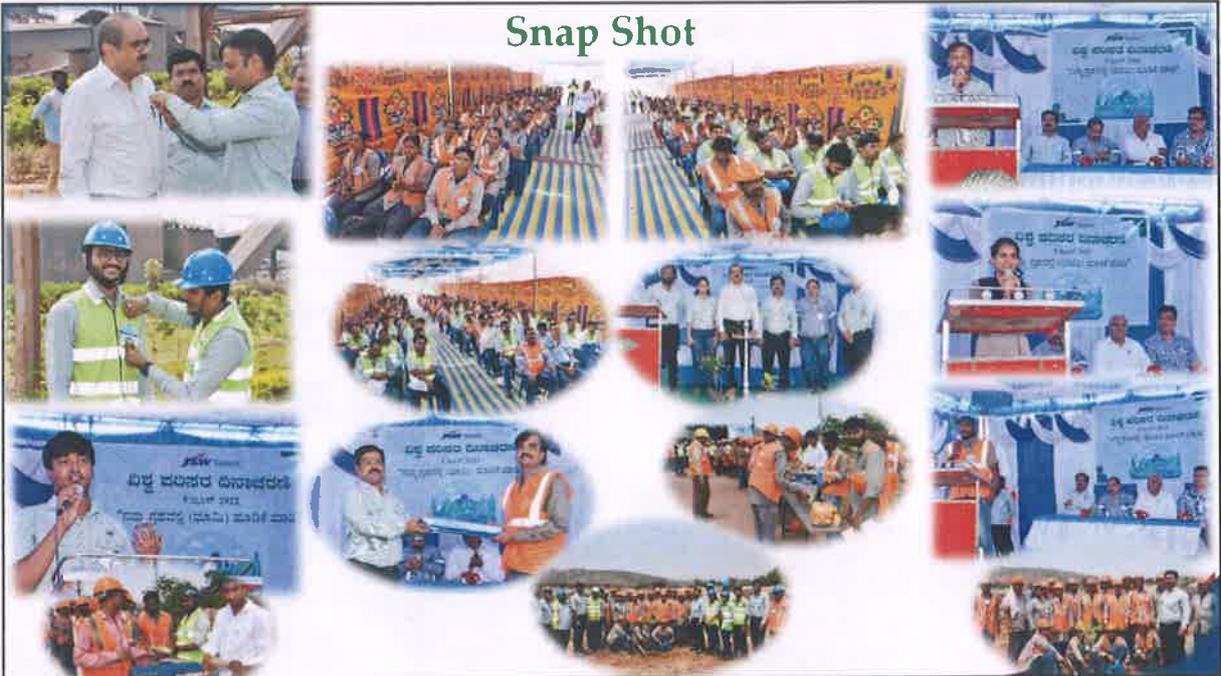


Honouring the Chief Guest, SEO KSPCB Bellary



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Snap Shot





It's never too late to go green especially when it is for the mother earth. It's not about saving on your electricity or utility bills; its about saving our planet. There is only One Earth. Lets preserve it. Let us come together and work towards rebuilding the fractured state of our environment.

JSW Cement Limited, Vijayanagar

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**IF YOU LOOK AFTER THE PLANET,
IT WILL LOOK AFTER YOU!**

This World's Health Day, let's strive to create a world that is sustainable for our well-being.

Thank You

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