

No. JSPL/ANGUL/EMD/21-22/87

Date: 25<sup>th</sup> Nov 2021

To,  
Ministry of Environment, Forest & Climate Change  
Eastern Regional Office  
A/3, Chandershekharapur  
Bhubaneswar – 751023

Subject: Compliance to Environmental Clearance of 6.5 MTPA Coal Washery of M/s. Jindal Steel & Power Limited, Angul

Ref.: Environmental Clearance No. J – 11015/1015/2007 – IA.II (M) dated 13<sup>th</sup> October 2009 & Amendment letter no. J-11015/1015/2007-IA-II(M) dated 12.11.2017

Dear Sir,

With Reference to above, we are submitting herewith the half yearly compliance report in respect to Coal Washery (6.5 MTPA ROM) of M/s Jindal Steel & Power Ltd, Angul, Odisha, for the period of April 2021 – September 2021.

Thanking you,

Yours faithfully,

for Jindal Steel & Power Limited



Alok Sahu

AVP – EMD

Copy to:

- 1) State Pollution Control Board, Odisha
- 2) Central Pollution Control Board, Kolkata

**COMPLIANCE TO ENVIRONMENTAL CLEARANCE OF COAL WASHERY**

**(vide letter no. J-11015/1015/2007-IA-II(M) dated 13.10.2009)**

**&**

**(Amendment letter no. J-11015/1015/2007-IA-II(M) dated 12.11.2017)**

**Period: April 2021 – September 2021**

**A. SPECIFIC CONDITIONS**

| S.N | Condition                                                                                                                                                                                                                                                                                                                                                                                                        | Compliance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | Raw coal to be transported by the dedicated road in tarpaulin covered trucks from the nearby coal mines in Talcher Coalfield, and/or by rail to the coal washery. Washed coal to be transported through piped conveyor within the steel plant and by rail to the prospective buyers/customers having firm MoU in this regard. (Condition amended vide letter no. J-11015/1015/2007-IA-II(M)pt dated 11.12.2017). | The raw coal is brought from Mahanadi Coal field Ltd, Talcher by railway racks & covered trucks through dedicated road. Washed coal is being transported to Coal Gasification Plant through covered conveyors.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 2   | The raw coal, washed coal and coal wastes (rejects) shall be stacked properly at earmarked site(s) within stockyards with storage capacity to store up to 5 days stock and fitted with wind breakers/shields. Adequate measures shall be taken to ensure that the stored minerals do not catch fire.                                                                                                             | <p>Adequate space has been earmarked for storage of raw coal, washed coal and coal wastes (rejects) separately with required storage capacity for storage capacity of more than 5 days. Fire hydrants have been installed to ensure that the stored minerals do not catch fire.</p> <p>The raw coal has been stored in the RMHS yards and has been provided with water sprinkling arrangements in each yard along with the fire hydrant. The yard also has been provided with a garland drain &amp; settling pit all around the yard. The crushed, middling &amp; washed coal is being stored in the covered shed at RMHS package-6 with 3 nos. of designated area of 300m x 50m size and each has been provided with arrangement of 18 nos. of water sprinklers along with the fire hydrants.</p> |
| 3   | Hoppers of the coal crushing unit and washery unit shall be fitted with high efficiency bag filters and mist spray water sprinkling system shall be installed and operated effectively at all times of operation to check fugitive emissions from crushing operations, transfer points of closed belt conveyor systems and from transportation roads.                                                            | De-dusting system with high efficiency bag filter has been provided at dry screen module and surge bins of Coal Washery. Coal is being transported through covered conveyors and mist spray sprinkling system is being provided at transfer points.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 4   | All internal roads shall be concreted. The roads shall be regularly cleaned with mechanical sweepers. A 3 tier avenue plantation using native species and species of economic importance shall be developed along the main roads, and approach roads to the washery.                                                                                                                                             | All internal roads of the Coal Washery have been concreted. Mechanical sweeping is being done regularly. 3 tier avenue plantations work using native species and species of economic importance has been developed along main roads and approached roads and the same is being strengthened.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 5   | Water requirement for the coal washery shall be met from bore wells for an initial period of 2 years only for the construction of the washery and from River Brahmani upto the 5 <sup>th</sup> year and thereafter, only mine pit, water of captive Utkal B1 coalmine shall be used after the intersection of water table.                                                                                       | Water requirement for the coal washery is met from treated waste water from the Steel plant supplemented with Brahmani River water.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 6   | The project authorities shall create a water reservoir and more than 10 rainwater harvesting pits and ground water recharge structures all across the                                                                                                                                                                                                                                                            | A water reservoir of 9 million m <sup>3</sup> capacity has been developed within the Steel plant area. The unlined base of the large reservoir acts as a vast ground water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

|    |                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | mine and in the Steel Plant Area. Any additional water requirement envisaged shall be obtained by recycle /reuse to the maximum extent and from rainwater harvesting measures.                                                                                                                                                                                            | recharge structure.<br>Further, 9 nos. of rain water harvesting structures have been developed in steel plant area to recharge ground water.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 7  | Industrial wastewater (workshop and wastewater from the washery) shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May 1993 and 31 sty December 1993 or as amended from time to time for recycle/ reuse. Oil and grease trap shall be installed for treatment of workshop effluents.                         | Process waste water generated from washery is treated in the thickener and reused in the process.<br><br>There is no workshop in coal washery.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 8  | The washery unit shall be a zero - discharge facility and no wastewater /effluent shall be discharged from the washery in to the drains / natural watercourses. Recycled water shall be used for development and maintenance of green belt and in the Plant Operations.                                                                                                   | Washery unit is designed for zero discharge and waste water is recycled and reused in the operations of the plant.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 9  | A 3-tier green belt of 5 ha using native species and species of economic importance shall be developed all along the periphery of the site, along the areas such as the washery unit, crushing unit, and stockyard.                                                                                                                                                       | A 3-tier green belt is developed using native species and plantation of species of economic importance has been done along the crushing unit and coal stockyard. .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 10 | Ash content and heavy metal including mercury content in raw coal, and clean coal and middling shall be analyzed once in a year and records maintained thereof.                                                                                                                                                                                                           | Ash and heavy metal including mercury content in raw coal, clean coal and middling have been analyzed from Institute of Minerals and Materials Technology, Bhubaneswar once in a year. Copy of the report attached as <b>Annexure 1</b> .                                                                                                                                                                                                                                                                                                                                                                                                             |
| 11 | Environmental protection measures with a capital cost of not less than Rs. 245.67 lakhs and Rs. 76.94 lakhs towards annual recurring costs shall be implemented.                                                                                                                                                                                                          | All the environmental protection measures and safeguards recommended in the EIA / EMP report has been implemented.<br>Rs. 2.6 Cr has been invested for environmental protection measures.                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 12 | Socio -economic and welfare measures for the local communities shall be implemented under CSR with annual revenue expenditure of Rs. 500 lakhs up to 4 the year and Rs. 2400 lakhs be earmarked from 5 the year for life of the project and details of the activities end the expenditure incurred hereunder be uploaded and updated on the company's website every year. | Till September 2021, JSPL has spent Rs. 100.96 Cr on CSR activities in the surrounding villages of the project in the following areas: <ul style="list-style-type: none"> <li>• Community health care</li> <li>• Education &amp; skill building &amp; employability</li> <li>• Rural development</li> <li>• Sustainable livelihood activities</li> <li>• Natural resource management</li> <li>• Sports, arts &amp; culture</li> <li>• Calamity management &amp; social welfare</li> </ul> A brief report on the CSR activities at JSPL, Angul are enclosed ( <b>Annexure – 2</b> ). Detailed report on CSR activities available in company's website. |

## B. GENERAL CONDITIONS

| S.N | Condition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compliance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | No change in technology and scope of working shall be made without prior approval of the Ministry of Environment and Forests.                                                                                                                                                                                                                                                                                                                                                                                                   | Noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 2   | No change in the calendar plan including quantum of mineral coal and waste shall be made.                                                                                                                                                                                                                                                                                                                                                                                                                                       | Necessary approval will be taken if there will be any change in the calendar plan including quantum of mineral coal and waste.                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 3   | Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring SPM, RSPM, SO <sub>2</sub> and NO <sub>x</sub> . Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, in SPM and RSPM etc. shall be carried out at least one in six months. | 4 Nos. of air quality monitoring stations have been installed to monitor PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>x</sub> . Locations of the stations were decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board ( <b>Annexure – 3</b> ).<br>Monitoring of heavy metals such as Hg, As, Ni, Pb in SPM and RSPM etc. has been carried out at least one in every six months ( <b>Annexure – 4</b> ). |
| 4   | Data on ambient air quality (SPM, RSPM, SO <sub>2</sub> and NO <sub>x</sub> and heavy metals such as Hg, As, Cr, etc) shall be regularly submitted to the ministry including its Regional Office at Bhubaneswar and to the State Pollution Control Board and the Central Pollution Control Board once in six months. Random verification of samples through analysis from independent laboratories recognized under the EP Rules, 1986 shall be furnished as part of the compliance report.                                     | Data on ambient air quality (PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>x</sub> , CO, O <sub>3</sub> , NH <sub>3</sub> and BTX) are transmitted to the SPCB and CPCB server on real time basis. AAQ report submitted to the Regional Office of the Ministry at Bhubaneswar on half yearly basis. AAQ report for the period April'21 – September'21 is attached as <b>Annexure- 3</b> .                                                                                                                                        |
| 5   | Adequate measures shall be taken control of noise levels below 85 dBA in the work environment. Workers engaged in blasting and drilling operations, Operation of HEMM, etc shall be provided with ear plugs / muffs.                                                                                                                                                                                                                                                                                                            | Adequate measures have been taken to control noise level below 85 dBA. Noise monitoring report attached herewith ( <b>Annexure – 5</b> ).<br>There is no drilling, blasting and HEMM operation inside the plant.                                                                                                                                                                                                                                                                                                                                    |
| 6   | Industrial wastewater (workshop and wastewater from the mine) shall be properly collected, treated so as to conform to the standard prescribed under GSR 422(E) dated 19 <sup>th</sup> May 1993 and 31 <sup>st</sup> December 1993 or as amended from time to time before discharge. Oil and grease trap shall be installed before discharge of workshop effluents.                                                                                                                                                             | Process waste water generated from washery is being treated in the thickener and reused in the process. No waste water is generated from the coal Washery.<br><br>There is no workshop in coal washery.                                                                                                                                                                                                                                                                                                                                             |
| 7   | Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transportation of the mineral shall be covered with tarpaulins and optimally loaded.                                                                                                                                                                                                                                                                                                                                                 | All vehicles with Raw Material entering plant premises are checked for Pollution Under Control (PUC) certificate. Vehicles used for transportation of the mineral are covered with tarpaulins and optimally loaded.                                                                                                                                                                                                                                                                                                                                 |

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                    |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8  | Monitoring of environmental quality parameters shall be carried out through establishment of adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board and data got analyzed through a laboratory recognized under EP Rules 1986.                                                                                                                                                                                                                                       | We have established a full-fledged environmental laboratory for regular monitoring of environmental quality parameters. Details of the list of the instruments in the laboratory are attached as <b>Annexure- 6</b> .                                                              |
| 9  | Personal working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects. Occupational health surveillance programmed of the workers shall be undertaken periodically to observe any contraction due to exposure to dust and to take corrective measures, If needed.                                                                                                                                                                    | Personal protective equipment has been provided to all the workers and periodical training program is being organized for workers and officers to provide information on safety and health aspects. Pre-employment and periodic health check up of the labour force is being done. |
| 10 | A separate environmental management cell with suitable qualified personal shall be set up under the control of a senior Executive, who will report directly to the Head of the company.                                                                                                                                                                                                                                                                                                                                                      | A separate Environment Management Department has been set up. The Organogram of Environment Management team is attached in <b>Annexure - 7</b> .                                                                                                                                   |
| 11 | The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year - wise expenditure shall be reported to this ministry and its Regional Office at Bhubaneswar.                                                                                                                                                                                                                                                                                                  | Funds for environmental protection measures have been kept in a separate account for the whole plant.                                                                                                                                                                              |
| 12 | The Project authorities shall advertise at least in two local news papers widely circulated around the projects, One of which shall be in the vernacular language of the locality concerned within seven days of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State pollution control Board and may also be seen at the website of the ministry of Environment & Forests at <a href="http://envfor.nic.in">http:// envfor.nic.in</a> . | Complied.                                                                                                                                                                                                                                                                          |
| 13 | A copy of the environmental clearance letter shall be marked to concerned Panchayat / Zila Parishad/ Municipal Corporation or Urban Local Body / local NGO, if any, from whom any suggestion / representation has been received while processing the proposal. A copy of the clearance letter shall also be displayed on the company's website.                                                                                                                                                                                              | Complied.                                                                                                                                                                                                                                                                          |
| 14 | A copy of the clearance letter shall be displayed on the website of the concerned State pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industry Centre and Collector's Office/ Tehsildar's Office for 30 days.                                                                                                                                                                                                                                                                              | Complied.                                                                                                                                                                                                                                                                          |

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 15 | <p>The project proponent shall submit six monthly reports on the status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e- mail) to the respective Regional Office of the MOEF, the respective zonal officers of CPCB and the SPCB. The compliance status of the stipulated EC conditions shall also be uploaded by the project authorities on their website and updated at least once every six months so as to bring the same in the public domain. The monitoring data of environmental quality parameters (air, water, noise and soil) shall also be displayed at the entrance of the projects premises and mines office and in corporate office and on the company's website.</p> | <p>Six monthly compliance reports on the status of compliance of the stipulated environmental clearance conditions (both in hard and e-mails) are being submitted to Regional office of MoEF, CPCB and SPCB.</p> <p>The compliance status of the stipulated EC conditions has also been uploaded on the website and updated every six months so as to bring the same in the public domain. The monitoring data of environmental quality parameters (air, water, noise and soil) has also been displayed at the entrance of the projects premises.</p> |
| 16 | <p>The Regional Office of this ministry located at Bhubaneswar shall monitor compliance of the stipulated conditions. The project authorities shall extend full cooperation to the office (s) of the Regional Office by furnishing the requisite data/ information/ monitoring reports.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                         | <p>Noted.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 17 | <p>The environmental statement for each financial year ending 31<sup>st</sup> March in form -V is mandated to be submitted by the projects proponent to the concerned State pollution Control Board as prescribed under the Environment (protection) Rules, 1986, as amended subsequently, shall also be uploaded on the company's website along with the status of compliance of EC conditions and shall be sent to the respective Regional Offices of the MOEF by E - mail.</p>                                                                                                                                                                                                                                                   | <p>The environmental statement for financial year 2020-21 has been submitted to the State pollution Control Board, Odisha &amp; MOEF&amp;CC (EZ) office and also uploaded on the company's website along with the status of compliance of EC conditions.</p>                                                                                                                                                                                                                                                                                          |



# Annexure 1

सीएसआइआर - खनिज एवं पदार्थ प्रौद्योगिकी संस्थान

(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद)

भुवनेश्वर-751013, ओडिशा, भारत

**CSIR - INSTITUTE OF MINERALS & MATERIALS TECHNOLOGY**

(Council of Scientific & Industrial Research)

Bhubaneswar - 751013, Odisha, INDIA

## TEST REPORT

Ref. No. : LT02-CCD/21/21

Date: 23.08.2021

Your Ref. No: E-mail Dated, 15.05.2021

Name & Address of the Party:

Mr. Arup Pal  
Manager - EMD  
Jindal Steel & Power Limited  
PO - Jindal Nagar; Angul (Odisha) - 759 111

Sample Details:

Three numbers of Coal samples:  
(1) Raw coal, (2) Washed Coal and (3) Middling coal.

Date of Receiving:

10.08.2020

Date of Conducting Test:

11.08.2020

Date of Completion of Test:

19.08.2020

Method Adopted/ Standard:

Classical Wet chemical analysis and AAS.

**Detail Report:**

| Sl. No. | Parameter | Concentration in test Coal samples (on air dry basis) |                         |                           |
|---------|-----------|-------------------------------------------------------|-------------------------|---------------------------|
|         |           | Sample-1<br>Raw Coal                                  | Sample-2<br>Washed Coal | Sample-3<br>Middling Coal |
| 1       | Ash, %    | 28.16                                                 | 21.72                   | 45.01                     |
| 2       | Fe, %     | 0.70                                                  | 0.66                    | 0.85                      |
| 3       | Zn, µg/g  | 39.35                                                 | 34.02                   | 49.3                      |
| 4       | Cu, µg/g  | 27.5                                                  | 23.62                   | 32.47                     |
| 5       | Pb, µg/g  | 21.14                                                 | 19.45                   | 24.42                     |
| 6       | As, µg/g  | 3.35                                                  | 0.47                    | 1.43                      |
| 7       | Cd, µg/g  | 0.14                                                  | 0.12                    | 0.18                      |
| 8       | Hg, µg/g  | 0.47                                                  | 0.38                    | 0.50                      |
| 9       | Mn, µg/g  | 88.04                                                 | 61.07                   | 103.72                    |
| 10      | Ni, µg/g  | 28.47                                                 | 18.33                   | 35.54                     |
| 11      | Cr, µg/g  | 49.5                                                  | 45.9                    | 56.15                     |
| 12      | Se, µg/g  | 0.38                                                  | 0.31                    | 0.34                      |
| 13      | Co, µg/g  | 0.52                                                  | 0.35                    | 1.18                      |

(Dr. B. Nayak)  
Sr. Principal Scientist  
& Head, CCD

(Dr. J. Das)  
Pr. Tech. Officer  
Central Characterization Dept.

N.B.: - The samples are not drawn by CSIR-IMMT. Liability, if any, for CSIR/IMMT arising in connection with the testing shall be subject to ceiling of amount received by the institute from the client. The report should not be interpreted in part.



# **JSPL FOUNDATION**

THE CSR ARM OF

## **JINDAL STEEL & POWER LTD.**



**(1<sup>st</sup> April 2021 – 30<sup>th</sup> Sep'2021)**

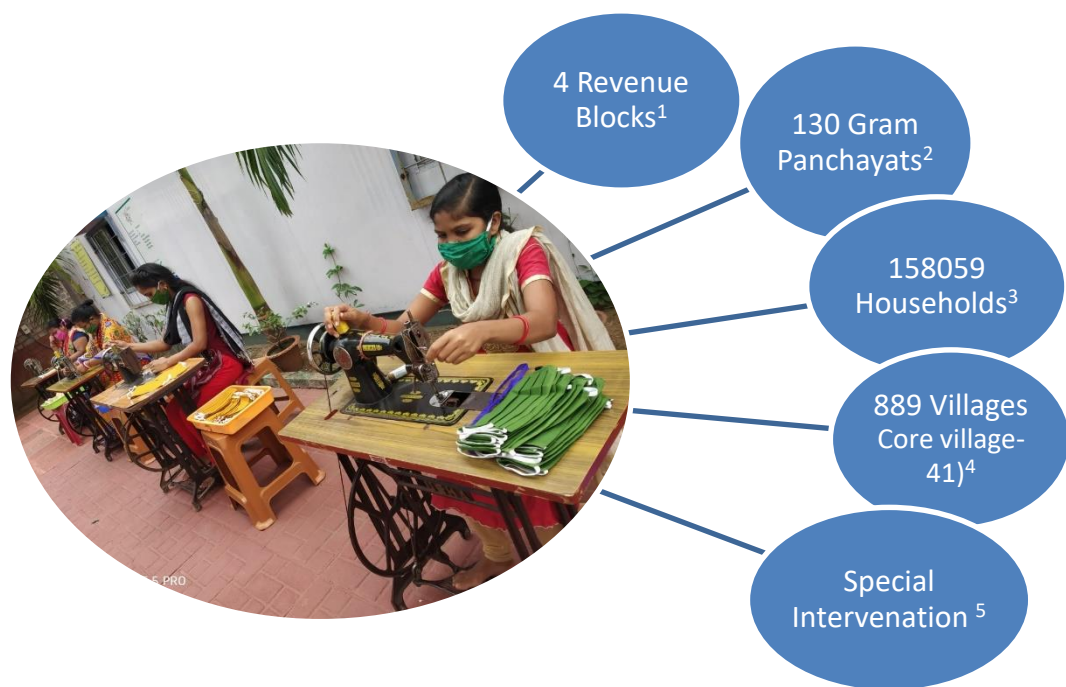


## CORPORATE SOCIAL RESPONSIBILITY (CSR)

***JSPL Foundation is the executing arm of Jindal Steel and Power Limited (JSPL) Group CSR activities which works with the community near business operations of the JSPL group as well as other parts of the country.***

JSPL Foundation is dedicated to the cause of humanity and is focused upon improving the Human Development Index by way of positioning itself as a parenting force of various Social Change Agents operating at the ground level. The Foundation has been guiding force of the sustainable social development initiatives implemented by Jindal Steel & Power across its business locations. The CSR interventions are focused on enhancing quality of life of the community in the vicinity of business locations by way of improving community healthcare and education, and also developing critical small civic infrastructures besides generating sustainable livelihood option, promoting sports, art and culture.

The Foundation has aligned its programmes with the Government and other developmental agencies with an objective of bringing about a radical transformation in the lives of the communities and integrating them into the mainstream development process of the country. The Foundation drives holistic community initiatives to help address some of the persistent social challenges in the realms of Healthcare, Water and Sanitation, Education & Skill Development, Infrastructure & Community Development, and Empowerment of Women. It strongly believes that sustainable community development is essential for harmony between the community and the industry. It endeavours to make a positive contribution to the underprivileged communities by supporting a wide range of socio-economic, educational and health initiatives.



<sup>1</sup> Core Block: Chhendipada and Banarpal. Additional Block: Pallahara (Project SNEHA) and Angul (Kishori Express)

<sup>2</sup> Core GP (16 of Chhendipada and Banarpal), Kishori Express (Angul – 34, Banarpal – 35, Chhendipada – 34 = 103 GPs), Project SNEHA (Pallahara - 27 GPs)

<sup>3</sup> Households: 8227 households and Special projects 2565 Households=10792.

<sup>4</sup> Village (core village 41 of Chhendipada and Banarpal), Kishori Express (Angul – 230, Banarpal – 156, Chhendipada – 184), Project SNEHA (Pallahara - 319)=889

<sup>5</sup> Special Intervention village: **1. Kishori Express** -: Chhendipada (184), Banarpal (156) and Angul (230) Blocks of Angul **2. Project SNEHA** -: Pallahara (319) **3. Watershed Management** -: Banarpal (5), **4. Address SAM** -: Banarpal (12), Chhendipada (10) Note: Village number of SI. 3 & 4 included in village number of SI. No. 1.

## Addressing 2nd Surge of COVID Pandemic -2021

- 394.5 ton Liquid Oxygen provided to COVID Hospital to address the emergency need of the COVID affected patient admitted to various hospitals.
- Covid Screening conducted at 149 villages where screening conducted for 10292 villagers.
- Nine institutions including Old age homes, Child care homes, home for destitute women have been provided with dry food materials for 3 months so that there will be sufficient food in stock with them to meet their daily food requirements. 300 people (**81000 meals**) are benefitted due to this service.
- Empty oxygen cylinder provided to Government.
- 5000 Double layer cotton nose masks and 500 alcohol based hand sanitizer bottles have been provided to District Administration, Angul for needy communities.
- Mask, Herbal Handwash, Sanitiser provided to villagers and village sanitization was conducted. 14 hoarding displayed at village level for sensitization. Under these activities more than 55000 villagers got benefitted.
- 2000 family Packets of dry food ration consisting Rice, Dal, White Pea, Soya chunk, spices, oil, salt were provided for the family who are under isolation / home quarantine.
- To avoid the community screening village sanitization conducted for 35 villages.
- Sensitization through online messages, video calling, audio video clips, telephonic call are being conducted where more than 500 villagers every day are being Sensitized.
- Online health services through telemedicine center provided to villagers near phase-2 area.

## OTHER HEALTH INITIATIVES

- **Kishori Express**, an anaemia control programme for adolescent girls is implemented in Banarpal & Angul blocks of Angul district through two customized vehicle equipped with a LCD screen, trained staff, sanitary napkins, haemometer, hand-washing kits, IFA tablets, IEC materials. It aims at improving the health of adolescent girls through regular hemoglobin check-up, awareness creation, as well as nutrition supplementation. In the reporting period 42628 girls being covered under the project. From the year 2011 we have covered 1.94 lakhs adolescent girls through this innovative initiative changing the quality of life of rural girls.
- A total of 22675 high risk populations have been covered under **HIV/AIDS programme** through ICTC, TI Agency (Utkal Sevak Samaj). This includes the employees, contractual workers, migrant workers, ANC mothers and truckers.
- The **health care centre** which was inaugurated by CDMO Angul on 2<sup>nd</sup> August 2017 is providing its service to the people of 9 periphery villages. During the reporting period 1819 patients were catered through the centre.
- In order to address the problem of poor health status of elderly people especially in our vicinity, the **project SWASTI** has introduced to provide customized health care to address physical, Mental and spiritual wellbeing of the elderly people suffering from age related health problems. Under the project, the elderly are getting services through a dedicated center equipped with basic physiotherapy equipment. Through the center 721 elderly are being benefitted during the reported period.

- As the part of the preventive health care through **community based health awareness**, 53301 populations have provided with the knowledge on Personal Hygiene, Mother and child care, 1000 day approach, Vector born disease control, sanitation & Hand wash etc. Special focus given on the precautionary measure for prevention of Corona Virus, villagers were sensitized on COVID-19 through Whats app Message, audio visual message, Poster etc.
- With an objective to reach out the truck drivers and providing them with primary eye health services, the Project **National Truckers Eye Health Programme** has been initiated from last year at the Transport Nagar-JSPL Campus in partnership with Sightsaver India. Project focused on more inclusive, accessible and sustainable eye health services and reducing accidents which are because of eyes problems to truck drivers. 1864 Truckers are being covered under the project.
- Under the Employer Led Model of **TB Elimination Programme** 53719 person were benefitted in sensitization and screening programme.
- 206 Units of Blood collected through Voluntary **Blood Donation Camps** in collaboration with the District Red Cross Society. It was handed over to District Blood Bank for the benefit of critical patient.
- **Nutri-garden (Mo Upakari Bagicha)** was developed in 95 Anganawadi center where Adolescent girls, pregnant women, lactating mothers and preschool children are being benefitted.
- To provide **safe drinking water** to the villagers of nearby villages two cold drinking water vehicles are in operation since July 2015 and March 2017. During the reporting period, both the vehicles have provided water to 611250 population of the plant vicinity.
- With an objective to promote holistic development of children and senior citizens, the JSPL Foundation has formulated a specialized programme to cater to the needy and the underprivileged in the society especially to the poor children (single parent, parentless), senior citizens, destitute, specially abled and Covid affected persons/ children. The areas of interventions are in health care, Nutrition, Education and skill building, basic enabling infrastructure and construction of civil infrastructure wherever feasible. The project covers 5 Senior Citizen's Home, 5 Children Home and 204 individuals residing at Community. All total 592 persons are being covered under the Special Project, SNEHA.
- With an objective of eradication of hunger among the children of Primitive Tribes, since 2017, **the Project SNEHA** is operational at interior pocket of Pallahara Block in partnership with District Administration, ICDS & Health Deptt.. Due to difficult terrain and scattered inhabitation it was a very difficult task for the children (3-6 year age) of tribal communities to access quality food from the tagging Anganawadi Center which was leading to child malnutrition, later into acute malnourishment. In the Phase I of the project, JSPL Foundation had provided food materials to all the identified 1206 children and in the second phase JSPL foundation was asked to focus on three aspects i.e. Supply of Hygiene Kit, Providing Incentive to Anganwadi Worker & Helper and organising quarterly health camp for malnourished children. Whereas National Health Mission, Integrated Child Development Services and Rural Water Supply and Sanitation of Pallahara look after the other aspects to bring development among the health condition of these children and their family. In the phase III, ICDS started providing hot cooked meals to the children through WSHGs in the block to 1206 targeted children of the age group (3-6 years) and Health deptt. was scheduled to conduct the Health camp. JSPL Foundation has been given the responsibilities which were identified as critical gap for effective implementation of the

project like incentive to WSHG Members for preparing and serving food to the children, Incentive to Anganawadi worker and helper for the enhancement of nutritional status of malnourished child, conducted health and awareness camp.

During this reporting year due to the Covid-19 restriction all Anganawadi's were closed and dry ration was provided to the doorstep of children. Hence the modalities was changed and 188 numbers of baby weighing scale & 188 numbers of height meter were provided to CDPO, Pallahara for ensuring growth monitoring of the children. Under the programme 12846 children (0-5year age group) were benefitted.

### **QUALITY EDUCATION:**

- Supplementing government efforts for infrastructure facilities at school, improving classroom amenities for students in the community and providing teaching and learning support material in the vernacular medium schools.
- Augmentation of employability & job orientation of youth through skill building courses at O.P Jindal Community College to 20064 youths (cumulative).
- To improve the Teachers Student Ratio in 24 schools (1:76 to 1:25) through support of 32 Voluntary Community Teachers in 18 villages. The programme benefitted 3151 Students.
- Pre-school facilities (**Prarambha**) at Badamahitala with nutritional supplementation program to 25 children. During the reporting year Preschool are being closed due to COVID-19.
- **OP Jindal Scholarship** is provided to meritorious students every year to pursue their education. In FY 2020-21, 33 students have received scholarship under categories like OP Jindal Jewel and OP Jindal Star.
- **DAV Savitri Jindal High School** was founded to develop a model vernacular school wherein, this could: augment the availability and quality of extracurricular activities for holistic personality development, provide need-based capacity building to enable the teaching staff to create a child-friendly learning environment, focused on first generation learners, support students' physical and psychological development, and inculcate good behaviour and hygienic practices for good health. For this program, there is a partnership with Dayanand Anglo Vedic College Management Committee (DAVCMC), whereby DAV extends its school management expertise and proven models to provide holistic, high-quality education in the vernacular medium. 350 children are enrolled in DAV Savitri Jindal High School. The majority of the students enrolled in the school belong to economically weaker sections.
- **Asha The Hope**, a special project has been initiated for children with disabilities. Through the project Physiotherapy, Occupational therapy, Special education, Speech therapy and audiometry, Music and Recreational Therapy, Counselling-guidance services, skill development training etc. will be delivered to enable them lead an independent life. In the reporting period, 75 children are benefitted through the project. Though the centre was closed due to COVID-19 but the service are being provided at the door step of children by the Therapists.
- During the reported period, **Project UTKARSH** has been introduced with an objective to address social challenges such as poverty & unemployment in the districts, through the provision of quality education and skills to youth(girls) especially those who are among poor, backward, SC, ST, Differently-abled, Women, Left Wing Extremist Affected (LWEA) and other disadvantaged sections. The Project Utkarsh enhancing the aspirations of 300 disadvantaged students (200 girls & 100 boys) for IAS, IPS, State Civil & Police Services and other Central, State Government and Corporate jobs through free quality coaching.

- Financial support extended to District Admin for transformation of 15 schools near the plant vicinity to enable schools to provide appropriate creative, technological, physiological and psycho-social support right from the early formative years to help children blossom and achieve their full potential as they grow under Mo School Abhiyan.
- Necessary support was extended to 10 Anganwadi Centers for creating as **Model Anganwadi** in the district. Under the initiative, child friendly bench desk and other required support were provided where 227 preschool children were benefitted under the project.

### **GENERATING SUSTAINABLE LIVELIHOOD OPTIONS FOR THE COMMUNITY & WOMEN'S EMPOWERMENT:**

- Women Empowerment and skill building programme is a flagship project of JSPL Foundation at Angul which is also known as Jan Jeevika Kendra (JJK). Presently 425 women are associated with the different income generating activities namely herbal body care product making, Food processing & preservation, diversified Jute item production, incense stick making, Tailoring, Phenyle making, and sanitary napkin production vegetable cultivation, mushroom cultivation, Bee keeping, Community diary, vermi composting, azolla farming etc. Women from the periphery villages after completing their household chores come to the centre and work for their livelihood which not only add to their income but also boost their self-confidence and social status.
- Under the skill building programme the rural women from plant vicinity are being regularly imparted with different training for their skill enhancement and production of qualitative and variety products. Under this initiative 2925 women are got benefitted.
- Around 45 artisans are engaged in making terracotta products. These women are working on electric wheel and are provided value added training for making household decorative items which has high demand in the market. With the intervention of JSPL Foundation, the artisans are registered at DIC and they have their registration Number, Craftsmanship certificate and all are insured under the Government scheme. The artisans also participate in the different craft fairs and exhibit their products. These artisans are engaged in Kudua making (Earthen pots) for preparation of Prasad for Lord Jagannath in Temples and terracotta items.
- “Sugandhi”- incense stick manufacturing unit – a joint initiative by ORMAS, JSPL and ITC Ltd in Public Private Partnership mode.
- The Milk Collection cum Distribution Centre - is running successfully by a farmers group. This unit is connected to 4 milk clusters comprising of 200 farmers from the nearby villages. The average milk collection is 18800 litres per month which is being marketed inside JSPL Township and is generating an income of Rs 4154 per month per farmer's family.
- **Strengthening of Existing Technology and capacity building initiative in Agriculture:** To strengthen the agriculture output and to increase the production, the farmers are being exposed and trained on different scientific technology through different agencies like Krishi Vigyan Kendra (KVK) and ATMA. In this reporting period hand holding support given to 3692 farmers for cultivating different crops which are fetching them an additional income of Rs.15000/- to Rs. 25000/- per person per year.



## **SPORTS, YOUTH & CULTURAL BONDING:**

- Due to COVID-19 Pandemic sports activities were not undertaken during the reporting year. However, Youth groups and village sports team members were sensitised by our Field Animator on COVID-19 Prevention.
- Regular fitness exercises on open fields being conducted. Gym equipment were provided to the villagers where 2250 youths are being benefitted.

## **NATURAL RESOURCE MANAGEMENT:**

- Two Micro-Watershed Management Projects are being supported by JSPL Foundation in partnership with the National Bank for Agriculture & Rural Development (NABARD) in order to address the issues of soil erosion, deforestation, sedimentation of water harvesting structures etc. through low-cost and locally available technologies like in-situ soil and moisture conservation measures, afforestation etc. and through a participatory approach that seeks to secure close involvement of the user-communities. The onus of implementing the project lies with the Village Watershed Committees which is working in close guidance of the Project Facilitating Agency, Maulana Azad Samajik Evam Shaikshnik Parishad (MASSP). The project is covering 5 villages namely Tubey, Maratira, Kulei, Derjang&Madhiamunda. 9000 villagers are being benefitted through implementation of an integrated programme on soil, water & biomass conservation, ground water recharge and enhancing agricultural production and productivity on a sustainable basis. Under the project 9000 villagers are being benefitted. During the reported period following activities undertaken
  - Arahara on Farm bond introduced with integration of SRI Paddy of 30 hectares land area in collaboration with District Agricultural Deptt.
  - Handholding support provided for 30 Acres integrated Farming of sweet corn and sun flower in 9 villages in collaboration with Dist. Agriculture Officer.
  - Extension of lemon grass field up to 10 acre to develop nursery by small marginal 50 farmer in collaboration with Green Essence and Horticulture Deptt.
  - Collaboration with DMF for Aroma plantation
  - Increase of Vegetable, pulses, SRI Paddy 1.5 times in both watershed area of Tubey and Derjanga.
  - Capacity building of Farmers done through SDP Project.
  - Business Plan has been developed up to Farmers Producer Organization registered under company act. They have applied for seed on fertilizer trading license with agriculture Deptt.
  - Two numbers of Paddy line Transplanter machines have been provided to two Farmers Producers Company registered under NABARD supported project in two Microwatershed development project area, i.e. Kalapata FPC at Tubey & Pitabali FPC at Derjang under government subsidy scheme to promote farm mechanisation to reduce the cost of production and increase the overall income of farmers.
  - Theme based day like World Water Day, Earth Day has been observed to sensitise the farmers on the Natural resource Managements.
  - Training on Scientific Agriculture techniques has been provided to the FPC members and farmers.
  - Project Monitoring Review Committee meeting of both the FPC has been done. Seed, fertiliser and pesticides retailers licence have been procured by the FPC from government and inputs have been provided to the farmers through these FPC in comparatively low rate to the open market

- Capacity building programme have been carried out with the help of Govt Agriculture department on biological pest management.
- One milk cluster has been formed in watershed village Maratira. 45 no. Farmers are associated. Marketing facility has been provided to the farmers for milk and milk products inside JSPL township. Capacity building, equipment support and support for Azolla and Green fodder cultivation have been provided to the farmers for sustainable supplementary income.

#### **AWARDS & RECOGNITIONS DURING 2021-22 (Till Sep'21):**

- Mahatma Award by Live Week USA for Multidimensional initiatives to mitigate COVID- 19 induced human miseries across India
- Top 10 Impact Leaders of india for Contribution in building a Resilient India during COVID- 19 Pandemic.
- Best CSR practices Award on Women Empowerment of Odisha CSR Forum.

#### **Expenditure (in Crore Rupees) under Corporate Social Responsibility, JSPL Angul**

| Sl. No. | Development Initiatives                                           | Expenditure (in Crore Rupees) under CSR |                                                   |
|---------|-------------------------------------------------------------------|-----------------------------------------|---------------------------------------------------|
|         |                                                                   | 2020-21 (Apr 20-Sep'21)                 | Cumulative 2005 - till 30 <sup>th</sup> Sep' 2021 |
| 1       | Community Health Care                                             | 3.18                                    | 12.19                                             |
| 2       | Education and Skill Building & Employability                      | 1.87                                    | 23.00                                             |
| 3       | Rural Development                                                 | 0.03                                    | 27.46                                             |
| 4       | Sustainable Livelihood Activities and Natural Resource Management | 0.24                                    | 6.98                                              |
| 5       | Sports, Art & Culture                                             | 0.05                                    | 1.26                                              |
| 6       | Policy (Calamity Management & Social Welfare and Others)          | 0.59                                    | 30.07                                             |
|         | <b>TOTAL</b>                                                      | <b>5.96</b>                             | <b>100.96</b>                                     |

Ref. No. EMD/LAB/MEF/21-22/03

Date: 05.11.2020

**Monthly Summary of Online Ambient Air Quality Monitoring Report**  
**(Apr'21 – Sept'21)**

| Month | Location                 |      | PM10<br>µg/m3 | PM2.5<br>µg/m3 | SO2<br>µg/m3 | NOx<br>µg/m3 | NO2<br>µg/m3 | CO<br>mg/m3 | NH3<br>µg/m3 | O3<br>µg/m3 | BENZ<br>µg/m3 |
|-------|--------------------------|------|---------------|----------------|--------------|--------------|--------------|-------------|--------------|-------------|---------------|
| Apr   | Central Utility Building | Min  | 55.2          | 25.6           | 5.9          | 9.5          | 4.6          | 0.3         | 4.8          | 4.5         | 0.0           |
|       |                          | Max  | 77.5          | 45.5           | 6.9          | 10.2         | 5.3          | 0.9         | 5.1          | 6.8         | 0.0           |
|       |                          | Avg. | 68.2          | 35.0           | 6.3          | 9.8          | 4.9          | 0.6         | 5.0          | 5.8         | 0.0           |
|       |                          | SD   | 4.3           | 3.2            | 0.3          | 0.1          | 0.2          | 0.2         | 0.1          | 0.6         | 0.0           |
|       | CGP                      | Min  | 61.9          | 31.3           | 6.8          | 9.0          | 3.6          | 0.4         | 4.3          | 7.7         | 0.0           |
|       |                          | Max  | 79.7          | 50.1           | 11.9         | 11.9         | 5.9          | 0.8         | 6.2          | 13.8        | 0.0           |
|       |                          | Avg. | 70.9          | 38.6           | 9.0          | 10.6         | 4.5          | 0.6         | 5.1          | 11.2        | 0.0           |
|       |                          | SD   | 4.0           | 5.2            | 1.3          | 0.8          | 0.4          | 0.1         | 0.4          | 1.5         | 0.0           |
|       | Security Barrack         | Min  | 61.5          | 31.8           | 7.1          | 8.1          | 3.5          | 0.3         | 5.0          | 10.1        | 0.0           |
|       |                          | Max  | 84.1          | 46.9           | 7.7          | 12.2         | 7.2          | 0.9         | 8.3          | 14.4        | 0.0           |
|       |                          | Avg. | 71.4          | 40.8           | 7.5          | 9.4          | 5.5          | 0.5         | 6.7          | 12.7        | 0.0           |
|       |                          | SD   | 5.1           | 4.1            | 0.2          | 1.1          | 0.8          | 0.1         | 0.8          | 1.2         | 0.0           |
|       | Township                 | Min  | 57.3          | 27.4           | 4.4          | 10.0         | 2.3          | 0.3         | 6.0          | 4.3         | 0.0           |
|       |                          | Max  | 73.1          | 41.6           | 7.9          | 16.7         | 5.7          | 0.9         | 9.2          | 5.0         | 0.0           |
|       |                          | Avg. | 66.3          | 32.1           | 6.4          | 11.7         | 3.3          | 0.5         | 7.4          | 4.6         | 0.0           |
|       |                          | SD   | 3.6           | 3.4            | 0.9          | 1.5          | 0.8          | 0.2         | 1.0          | 0.2         | 0.0           |
| May   | Central Utility Building | Min  | 60.4          | 34.2           | 5.7          | 9.3          | 4.7          | 0.3         | 4.7          | 3.9         | 0.0           |
|       |                          | Max  | 72.6          | 41.2           | 7.2          | 10.1         | 5.3          | 0.8         | 5.2          | 7.1         | 0.0           |
|       |                          | Avg. | 67.2          | 36.5           | 6.1          | 9.8          | 4.9          | 0.5         | 4.9          | 5.1         | 0.0           |
|       |                          | SD   | 3.3           | 1.8            | 0.4          | 0.2          | 0.1          | 0.1         | 0.1          | 1.0         | 0.0           |
|       | CGP                      | Min  | 64.3          | 27.4           | 6.8          | 8.7          | 3.7          | 0.4         | 4.3          | 8.7         | 0.0           |
|       |                          | Max  | 72.9          | 46.6           | 11.4         | 12.2         | 5.7          | 0.8         | 6.7          | 13.7        | 0.0           |
|       |                          | Avg. | 69.3          | 34.9           | 8.1          | 10.1         | 4.8          | 0.5         | 5.3          | 11.3        | 0.0           |
|       |                          | SD   | 2.0           | 4.3            | 0.8          | 0.8          | 0.5          | 0.1         | 0.5          | 1.4         | 0.0           |
|       | Security Barrack         | Min  | 61.8          | 25.3           | 7.2          | 7.4          | 4.6          | 0.4         | 5.2          | 9.5         | 0.0           |
|       |                          | Max  | 79.5          | 45.8           | 8.2          | 9.3          | 6.2          | 0.8         | 7.4          | 14.3        | 0.0           |
|       |                          | Avg. | 69.8          | 35.2           | 7.7          | 8.3          | 5.4          | 0.6         | 6.4          | 12.0        | 0.0           |
|       |                          | SD   | 3.9           | 3.9            | 0.2          | 0.4          | 0.4          | 0.1         | 0.7          | 1.6         | 0.0           |
|       | Township                 | Min  | 54.1          | 29.5           | 4.9          | 10.2         | 2.5          | 0.2         | 6.2          | 4.3         | 0.0           |
|       |                          | Max  | 75.6          | 36.8           | 10.2         | 15.9         | 4.1          | 0.8         | 9.7          | 5.0         | 0.0           |
|       |                          | Avg. | 66.4          | 32.7           | 7.0          | 12.4         | 3.4          | 0.5         | 8.1          | 4.7         | 0.0           |
|       |                          | SD   | 4.7           | 2.1            | 1.1          | 1.4          | 0.4          | 0.2         | 0.9          | 0.2         | 0.0           |



| Month | Location                 |      | PM10<br>µg/m3 | PM2.5<br>µg/m3 | SO2<br>µg/m3 | NOx<br>µg/m3 | NO2<br>µg/m3 | CO<br>mg/m3 | NH3<br>µg/m3 | O3<br>µg/m3 | BENZ<br>µg/m3 |
|-------|--------------------------|------|---------------|----------------|--------------|--------------|--------------|-------------|--------------|-------------|---------------|
| Jun   | Central Utility Building | Min  | 58.0          | 34.4           | 5.2          | 9.6          | 4.6          | 0.3         | 4.6          | 3.6         | 0.0           |
|       |                          | Max  | 72.8          | 38.7           | 6.3          | 10.2         | 5.1          | 0.8         | 5.2          | 7.0         | 0.0           |
|       |                          | Avg. | 65.1          | 35.6           | 6.0          | 9.9          | 4.8          | 0.5         | 4.9          | 5.1         | 0.0           |
|       |                          | SD   | 3.2           | 1.0            | 0.2          | 0.2          | 0.1          | 0.1         | 0.2          | 1.1         | 0.0           |
|       | CGP                      | Min  | 61.2          | 27.1           | 7.1          | 7.8          | 3.4          | 0.3         | 4.2          | 9.2         | 0.0           |
|       |                          | Max  | 74.8          | 39.2           | 8.1          | 11.4         | 5.7          | 0.9         | 5.7          | 13.7        | 0.0           |
|       |                          | Avg. | 67.8          | 33.0           | 7.3          | 9.8          | 4.6          | 0.5         | 5.0          | 11.1        | 0.0           |
|       |                          | SD   | 3.4           | 2.7            | 0.3          | 0.9          | 0.5          | 0.1         | 0.4          | 1.2         | 0.0           |
|       | Security Barrack         | Min  | 61.5          | 27.5           | 7.1          | 4.1          | 4.2          | 0.3         | 5.0          | 9.9         | 0.0           |
|       |                          | Max  | 73.0          | 41.8           | 7.8          | 10.8         | 6.1          | 0.8         | 8.4          | 15.3        | 0.0           |
|       |                          | Avg. | 68.1          | 34.3           | 7.5          | 6.7          | 5.0          | 0.5         | 6.4          | 12.6        | 0.0           |
|       |                          | SD   | 3.6           | 3.8            | 0.1          | 1.6          | 0.4          | 0.1         | 0.8          | 1.5         | 0.0           |
|       | Township                 | Min  | 57.1          | 29.8           | 5.3          | 10.3         | 2.9          | 0.3         | 6.3          | 4.4         | 0.0           |
|       |                          | Max  | 76.3          | 42.6           | 9.0          | 14.9         | 5.8          | 0.8         | 9.6          | 5.0         | 0.0           |
|       |                          | Avg. | 64.9          | 34.3           | 6.8          | 12.4         | 4.1          | 0.6         | 7.5          | 4.7         | 0.0           |
|       |                          | SD   | 4.7           | 3.0            | 0.8          | 1.2          | 0.6          | 0.1         | 0.9          | 0.2         | 0.0           |
| Jul   | Central Utility Building | Min  | 59.5          | 34.4           | 4.0          | 9.2          | 4.6          | 0.3         | 4.6          | 6.0         | 0.0           |
|       |                          | Max  | 73.7          | 52.6           | 6.2          | 10.3         | 5.2          | 0.8         | 5.2          | 6.9         | 0.0           |
|       |                          | Avg. | 65.0          | 35.7           | 5.8          | 9.8          | 4.8          | 0.5         | 4.9          | 6.5         | 0.0           |
|       |                          | SD   | 4.2           | 3.2            | 0.5          | 0.2          | 0.2          | 0.1         | 0.2          | 0.2         | 0.0           |
|       | CGP                      | Min  | 56.8          | 28.8           | 6.8          | 8.3          | 3.8          | 0.3         | 4.5          | 9.5         | 0.0           |
|       |                          | Max  | 85.5          | 43.4           | 7.5          | 13.2         | 6.2          | 0.9         | 8.5          | 14.1        | 0.0           |
|       |                          | Avg. | 67.3          | 33.6           | 7.2          | 10.3         | 4.9          | 0.6         | 6.2          | 11.3        | 0.0           |
|       |                          | SD   | 5.4           | 3.4            | 0.2          | 1.3          | 0.6          | 0.1         | 1.1          | 1.2         | 0.0           |
|       | Security Barrack         | Min  | 61.4          | 28.6           | 6.5          | 4.5          | 4.2          | 0.3         | 5.2          | 9.4         | 0.0           |
|       |                          | Max  | 77.0          | 39.3           | 7.5          | 11.5         | 7.2          | 0.8         | 12.6         | 15.3        | 0.0           |
|       |                          | Avg. | 67.7          | 33.9           | 7.1          | 7.6          | 5.5          | 0.5         | 8.6          | 11.9        | 0.0           |
|       |                          | SD   | 4.0           | 2.6            | 0.3          | 2.1          | 0.9          | 0.1         | 2.7          | 1.4         | 0.0           |
|       | Township                 | Min  | 51.9          | 27.2           | 3.5          | 9.4          | 2.5          | 0.3         | 5.8          | 4.2         | 0.0           |
|       |                          | Max  | 82.9          | 39.4           | 9.2          | 16.7         | 6.2          | 0.8         | 10.7         | 5.2         | 0.0           |
|       |                          | Avg. | 64.7          | 31.8           | 6.5          | 12.2         | 3.7          | 0.5         | 8.0          | 4.7         | 0.0           |
|       |                          | SD   | 7.1           | 2.9            | 1.3          | 1.8          | 0.9          | 0.1         | 1.2          | 0.2         | 0.0           |



| Month | Location                 |      | PM10  | PM2.5 | SO2   | NOx   | NO2   | CO    | NH3   | O3    | BENZ  |
|-------|--------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|       |                          |      | µg/m3 | µg/m3 | µg/m3 | µg/m3 | µg/m3 | mg/m3 | µg/m3 | µg/m3 | µg/m3 |
| Aug   | Central Utility Building | Min  | 58.4  | 32.5  | 5.5   | 9.7   | 4.6   | 0.4   | 4.7   | 6.0   | 0.0   |
|       |                          | Max  | 78.9  | 39.4  | 6.1   | 10.3  | 5.4   | 0.9   | 5.2   | 6.9   | 0.0   |
|       |                          | Avg. | 64.6  | 35.1  | 5.8   | 9.9   | 4.9   | 0.6   | 5.0   | 6.5   | 0.0   |
|       |                          | SD   | 4.0   | 1.4   | 0.1   | 0.2   | 0.2   | 0.1   | 0.1   | 0.2   | 0.0   |
|       | CGP                      | Min  | 53.4  | 20.6  | 6.7   | 7.8   | 3.2   | 0.4   | 4.1   | 6.4   | 0.0   |
|       |                          | Max  | 72.9  | 40.0  | 7.5   | 18.5  | 5.4   | 0.8   | 9.7   | 10.5  | 0.0   |
|       |                          | Avg. | 65.0  | 28.6  | 7.1   | 11.3  | 4.6   | 0.6   | 5.3   | 8.2   | 0.0   |
|       |                          | SD   | 4.8   | 4.3   | 0.2   | 2.7   | 0.4   | 0.1   | 1.0   | 1.2   | 0.0   |
|       | Security Barrack         | Min  | 54.6  | 22.2  | 4.2   | 7.6   | 5.2   | 0.3   | 8.2   | 6.7   | 0.0   |
|       |                          | Max  | 91.2  | 49.7  | 8.5   | 11.8  | 9.4   | 0.9   | 12.9  | 11.3  | 0.0   |
|       |                          | Avg. | 67.4  | 35.3  | 7.4   | 9.2   | 6.5   | 0.6   | 10.4  | 8.4   | 0.0   |
|       |                          | SD   | 7.0   | 6.3   | 0.9   | 0.8   | 0.8   | 0.1   | 1.2   | 1.3   | 0.0   |
|       | Township                 | Min  | 54.3  | 28.6  | 3.1   | 9.4   | 2.6   | 0.3   | 6.4   | 4.4   | 0.0   |
|       |                          | Max  | 76.0  | 48.2  | 9.1   | 14.5  | 4.3   | 0.8   | 10.9  | 5.3   | 0.0   |
|       |                          | Avg. | 63.2  | 33.7  | 5.5   | 11.5  | 3.4   | 0.5   | 7.8   | 4.8   | 0.0   |
|       |                          | SD   | 5.3   | 3.8   | 1.7   | 1.4   | 0.4   | 0.1   | 1.1   | 0.2   | 0.0   |
| Sept  | Central Utility Building | Min  | 58.5  | 30.2  | 5.6   | 9.4   | 4.8   | 0.3   | 4.6   | 5.7   | 0.0   |
|       |                          | Max  | 71.9  | 38.6  | 6.5   | 10.3  | 5.3   | 0.9   | 5.2   | 6.7   | 0.0   |
|       |                          | Avg. | 62.9  | 34.6  | 6.1   | 9.9   | 5.0   | 0.5   | 4.9   | 6.4   | 0.0   |
|       |                          | SD   | 3.1   | 1.7   | 0.2   | 0.2   | 0.1   | 0.1   | 0.1   | 0.2   | 0.0   |
|       | CGP                      | Min  | 54.9  | 24.0  | 6.5   | 9.0   | 3.0   | 0.3   | 4.4   | 6.5   | 0.0   |
|       |                          | Max  | 74.7  | 34.6  | 7.5   | 14.1  | 5.8   | 0.8   | 8.9   | 10.4  | 0.0   |
|       |                          | Avg. | 63.6  | 28.4  | 7.1   | 11.1  | 4.4   | 0.5   | 5.8   | 8.5   | 0.0   |
|       |                          | SD   | 4.5   | 3.2   | 0.2   | 1.5   | 0.7   | 0.1   | 1.1   | 1.1   | 0.0   |
|       | Security Barrack         | Min  | 55.6  | 27.6  | 5.2   | 7.9   | 4.2   | 0.3   | 8.6   | 5.2   | 0.0   |
|       |                          | Max  | 79.1  | 42.5  | 7.0   | 9.2   | 6.9   | 0.9   | 12.8  | 10.9  | 0.0   |
|       |                          | Avg. | 64.6  | 34.8  | 6.3   | 8.5   | 6.0   | 0.6   | 10.8  | 8.0   | 0.0   |
|       |                          | SD   | 5.6   | 3.5   | 0.4   | 0.3   | 0.7   | 0.1   | 0.8   | 1.6   | 0.0   |
|       | Township                 | Min  | 51.4  | 26.8  | 6.3   | 9.8   | 2.7   | 0.3   | 6.9   | 4.9   | 0.0   |
|       |                          | Max  | 72.4  | 36.7  | 10.5  | 14.5  | 6.9   | 0.9   | 10.2  | 8.6   | 0.0   |
|       |                          | Avg. | 62.1  | 31.6  | 8.4   | 11.4  | 3.9   | 0.6   | 8.5   | 6.2   | 0.0   |
|       |                          | SD   | 4.8   | 2.4   | 1.1   | 1.2   | 1.2   | 0.1   | 1.0   | 1.1   | 0.0   |

  
Lab (I/C)

  
HOD (EMD)

### Test Report

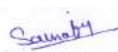
Document QF : 2501  
Page 1 of 2

|                                                                                                              |                                                                                                                                                                                                                                                                    |
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| <b>Issued To</b><br><br>Jindal Steel & Power Limited<br>SH-63, Chendipada Road, Jindal Nagar, Angul<br>Angul | <b>Sample Reg. No.</b> :E01-2108030070<br><b>Sample Reg. Date</b> :03-08-2021<br><b>Report Date</b> :13-08-2021<br><b>Report No.</b> :ICE-2108130320<br><b>NABL ULR No.</b> :TC592621000008562F<br><b>Customer Ref. No.:</b> WO<br><b>Letter Dated</b> :03.04.2021 |
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|                                                                                                                                                                                                                                                 |                                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| <b>Test Report as per :</b>                                                                                                                                                                                                                     | : NAAQS 2009                                                                                              |
| <b>General Information :</b><br><br>Location of Sampling Point<br>Date of Monitoring<br>Purpose of Monitoring<br>Duration of Monitoring,minutes<br>Avg. Flow Rate of Sampling,m3/min<br>Volume of air sampled,m3<br>Avg. Ambient Temperature,°C | : DWTP Building<br>: 20-07-2021<br>: To assess the pollution level<br>: 529<br>: 1.13<br>: 550.70<br>: 36 |

| Description |                                       |                                                   |               |              |
|-------------|---------------------------------------|---------------------------------------------------|---------------|--------------|
| Description |                                       | Ambient Air Quality Monitoring                    |               |              |
| S.No.       | Parameters                            | Method                                            | Specification | Result       |
|             | <b>Discipline : Chemical</b>          |                                                   |               |              |
|             | <b>Group : Atmospheric Pollution</b>  |                                                   |               |              |
| 1.          | <b>Ambient Air Quality Parameters</b> |                                                   |               |              |
| a.          | Lead(As Pb),µg/m3                     | Method of Air sampling & Analysis(Method No. 822) | 1.0 Max       | BLQ(LOQ:0.1) |
| b.          | Arsenic(as As),ng/m3                  | Method of Air sampling & Analysis(Method No. 822) | 6 Max.        | BLQ(LOQ:1.0) |
| c.          | Nickel(As Ni),ng/m3                   | Method of Air sampling & Analysis(Method No. 822) | 20 Max.       | BLQ(LOQ:1.0) |
| d.          | Mercury (as Hg),µg/m3                 | Method of Air sampling & Analysis(Method No. 822) | Not Specified | BLQ(LOQ:0.1) |

'#' represents Customer Defined Fields

  
Saurabh Sharma  
13-08-2021  
Reviewer

  
13-08-2021  
PremKumar  
[Authorized Signatory]

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## Test Report

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|                                                                                                          |                                                                                                                                                                                                                                                                    |
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| <b>Issued To</b><br>Jindal Steel & Power Limited<br>SH-63, Chendipada Road, Jindal Nagar, Angul<br>Angul | <b>Sample Reg. No.</b> :E01-2108030070<br><b>Sample Reg. Date</b> :03-08-2021<br><b>Report Date</b> :13-08-2021<br><b>Report No.</b> :ICE-2108130320<br><b>NABL ULR No.</b> :TC592621000008562F<br><b>Customer Ref. No.:</b> WO<br><b>Letter Dated</b> :03.04.2021 |
|----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**NOTE :** NA- Not Applicable, BLQ- Below limit of Quantification, LOQ- Limit of Quantification, Requirements as per NAAQS 2009, Sample collected by lab rep. on 20.07.2021, Sampling Procedure - SOP/ITC/EW/056

**REMARKS :**N/A

\*\*\*\*\*End Of Report\*\*\*\*\*



Saurabh Sharma  
13-08-2021  
Reviewer



13-08-2021  
PremKumar  
[Authorized Signatory]

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## Test Report

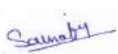
Document QF : 2501  
Page 1 of 2

|                                                                                                              |                                                                                                                                                                                                                                                                    |
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| <b>Issued To</b><br><br>Jindal Steel & Power Limited<br>SH-63, Chendipada Road, Jindal Nagar, Angul<br>Angul | <b>Sample Reg. No.</b> :E01-2108030071<br><b>Sample Reg. Date</b> :03-08-2021<br><b>Report Date</b> :13-08-2021<br><b>Report No.</b> :ICE-2108130322<br><b>NABL ULR No.</b> :TC592621000008563F<br><b>Customer Ref. No.</b> :WO<br><b>Letter Dated</b> :03.04.2021 |
|--------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                                                                                                                                                                                                                                                     |                                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| <b>Test Report as per :</b>                                                                                                                                                                                                                         | : NAAQS 2009                                                                                          |
| <b>General Information :</b><br><br>Location of Sampling Point<br>Date of Monitoring<br>Purpose of Monitoring<br>Duration of Monitoring, minutes<br>Avg. Flow Rate of Sampling, m3/min<br>Volume of air sampled, m3<br>Avg. Ambient Temperature, °C | : Hostel- I<br>: 20-07-2021<br>: To assess the pollution level<br>: 501<br>: 1.08<br>: 507.37<br>: 31 |

| Description |                                       |                                                   |               |              |
|-------------|---------------------------------------|---------------------------------------------------|---------------|--------------|
| Description |                                       | Ambient Air Quality Monitoring                    |               |              |
| S.No.       | Parameters                            | Method                                            | Specification | Result       |
|             | <b>Discipline : Chemical</b>          |                                                   |               |              |
|             | <b>Group : Atmospheric Pollution</b>  |                                                   |               |              |
| 1.          | <b>Ambient Air Quality Parameters</b> |                                                   |               |              |
| a.          | Lead(As Pb), µg/m3                    | Method of Air sampling & Analysis(Method No. 822) | 1.0 Max       | BLQ(LOQ:0.1) |
| b.          | Arsenic(as As), ng/m3                 | Method of Air sampling & Analysis(Method No. 822) | 6 Max.        | BLQ(LOQ:1.0) |
| c.          | Nickel(As Ni), ng/m3                  | Method of Air sampling & Analysis(Method No. 822) | 20 Max.       | BLQ(LOQ:1.0) |
| d.          | Mercury (as Hg), µg/m3                | Method of Air sampling & Analysis(Method No. 822) | Not Specified | BLQ(LOQ:0.1) |

'#' represents Customer Defined Fields

  
Saurabh Sharma  
13-08-2021  
**Reviewer**

  
13-08-2021  
**Prem Kumar**  
**[Authorized Signatory]**

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- The results relate to the item tested.

## Test Report

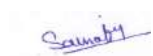
Document QF : 2501  
Page 2 of 2

|                                                                                                          |                                                                                                                                                                                                                                                                    |
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| <b>Issued To</b><br>Jindal Steel & Power Limited<br>SH-63, Chendipada Road, Jindal Nagar, Angul<br>Angul | <b>Sample Reg. No.</b> :E01-2108030071<br><b>Sample Reg. Date</b> :03-08-2021<br><b>Report Date</b> :13-08-2021<br><b>Report No.</b> :ICE-2108130322<br><b>NABL ULR No.</b> :TC592621000008563F<br><b>Customer Ref. No.:</b> WO<br><b>Letter Dated</b> :03.04.2021 |
|----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**NOTE :** NA- Not Applicable, BLQ- Below limit of Quantification, LOQ- Limit of Quantification, Requirements as per NAAQS 2009, Sample collected by lab rep. on 20.07.2021, Sampling Procedure - SOP/ITC/EW/056

**REMARKS :**N/A

\*\*\*\*\*End Of Report\*\*\*\*\*



Saurabh Sharma  
13-08-2021  
Reviewer



13-08-2021  
PremKumar  
[Authorized Signatory]

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## Test Report

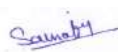
Document QF : 2501  
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| <b>Issued To</b><br>Jindal Steel & Power Limited<br>SH-63, Chendipada Road, Jindal Nagar, Angul<br>Angul | <b>Sample Reg. No.</b> :E01-2108030072<br><b>Sample Reg. Date</b> :03-08-2021<br><b>Report Date</b> :13-08-2021<br><b>Report No.</b> :ICE-2108130321<br><b>NABL ULR No.</b> :TC592621000008564F<br><b>Customer Ref. No.</b> :WO<br><b>Letter Dated</b> :03.04.2021 |
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|                                                                                                                                                                                                                                                 |                                                                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| <b>Test Report as per :</b>                                                                                                                                                                                                                     | : NAAQS 2009                                                                                                |
| <b>General Information :</b><br>Location of Sampling Point<br>Date of Monitoring<br>Purpose of Monitoring<br>Duration of Monitoring, minutes<br>Avg. Flow Rate of Sampling, m3/min<br>Volume of air sampled, m3<br>Avg. Ambient Temperature, °C | : Phase 1B Office<br>: 20-07-2021<br>: To assess the pollution level<br>: 500<br>: 1.14<br>: 527.29<br>: 36 |

| Description                          |                                       |                                                   |               |              |
|--------------------------------------|---------------------------------------|---------------------------------------------------|---------------|--------------|
| Description                          | Ambient Air Quality Monitoring        |                                                   |               |              |
| S.No.                                | Parameters                            | Method                                            | Specification | Result       |
| <b>Discipline : Chemical</b>         |                                       |                                                   |               |              |
| <b>Group : Atmospheric Pollution</b> |                                       |                                                   |               |              |
| 1.                                   | <b>Ambient Air Quality Parameters</b> |                                                   |               |              |
| a.                                   | Lead(As Pb), µg/m3                    | Method of Air sampling & Analysis(Method No. 822) | 1.0 Max       | BLQ(LOQ:0.1) |
| b.                                   | Arsenic(as As), ng/m3                 | Method of Air sampling & Analysis(Method No. 822) | 6 Max.        | BLQ(LOQ:1.0) |
| c.                                   | Nickel(As Ni), ng/m3                  | Method of Air sampling & Analysis(Method No. 822) | 20 Max.       | BLQ(LOQ:1.0) |
| d.                                   | Mercury (as Hg), µg/m3                | Method of Air sampling & Analysis(Method No. 822) | Not Specified | BLQ(LOQ:0.1) |

'#' represents Customer Defined Fields

  
Saurabh Sharma  
13-08-2021  
Reviewer

  
13-08-2021  
Prem Kumar  
[Authorized Signatory]

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## Test Report

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| <b>Issued To</b><br>Jindal Steel & Power Limited<br>SH-63, Chendipada Road, Jindal Nagar, Angul<br>Angul | <b>Sample Reg. No.</b> :E01-2108030072<br><b>Sample Reg. Date</b> :03-08-2021<br><b>Report Date</b> :13-08-2021<br><b>Report No.</b> :ICE-2108130321<br><b>NABL ULR No.</b> :TC592621000008564F<br><b>Customer Ref. No.</b> :WO<br><b>Letter Dated</b> :03.04.2021 |
|----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**NOTE** : NA- Not Applicable, BLQ- Below limit of Quantification, LOQ- Limit of Quantification, Requirements as per NAAQS 2009, Sample collected by lab rep. on 20.07.2021, Sampling Procedure - SOP/ITC/EW/056

**REMARKS** :N/A

\*\*\*\*\*End Of Report\*\*\*\*\*



Saurabh Sharma  
13-08-2021  
Reviewer



13-08-2021  
PremKumar  
[Authorized Signatory]

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## Test Report

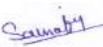
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|                                                                                                              |                                                                                                                                                                                                                                                                    |
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| <b>Issued To</b><br><br>Jindal Steel & Power Limited<br>SH-63, Chendipada Road, Jindal Nagar, Angul<br>Angul | <b>Sample Reg. No.</b> :E01-2108030073<br><b>Sample Reg. Date</b> :03-08-2021<br><b>Report Date</b> :13-08-2021<br><b>Report No.</b> :ICE-2108130323<br><b>NABL ULR No.</b> :TC592621000008565F<br><b>Customer Ref. No.</b> :WO<br><b>Letter Dated</b> :03.04.2021 |
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|                                                                                                                                                                                                                                                     |                                                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| <b>Test Report as per :</b>                                                                                                                                                                                                                         | : NAAQS 2009                                                                                                               |
| <b>General Information :</b><br><br>Location of Sampling Point<br>Date of Monitoring<br>Purpose of Monitoring<br>Duration of Monitoring, minutes<br>Avg. Flow Rate of Sampling, m3/min<br>Volume of air sampled, m3<br>Avg. Ambient Temperature, °C | : CGP Control Room No.1 Building<br>: 20-07-2021<br>: To assess the pollution level<br>: 501<br>: 1.16<br>: 543.45<br>: 31 |

| Description |                                       |                                                   |               |              |
|-------------|---------------------------------------|---------------------------------------------------|---------------|--------------|
| Description | Ambient Air Quality Monitoring        |                                                   |               |              |
| S.No.       | Parameters                            | Method                                            | Specification | Result       |
|             | <b>Discipline : Chemical</b>          |                                                   |               |              |
|             | <b>Group : Atmospheric Pollution</b>  |                                                   |               |              |
| 1.          | <b>Ambient Air Quality Parameters</b> |                                                   |               |              |
| a.          | Lead(As Pb), µg/m3                    | Method of Air sampling & Analysis(Method No. 822) | 1.0 Max       | BLQ(LOQ:0.1) |
| b.          | Arsenic(as As), ng/m3                 | Method of Air sampling & Analysis(Method No. 822) | 6 Max.        | BLQ(LOQ:1.0) |
| c.          | Nickel(As Ni), ng/m3                  | Method of Air sampling & Analysis(Method No. 822) | 20 Max.       | BLQ(LOQ:1.0) |
| d.          | Mercury (as Hg), µg/m3                | Method of Air sampling & Analysis(Method No. 822) | Not Specified | BLQ(LOQ:0.1) |

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Saurabh Sharma  
13-08-2021  
Reviewer

  
13-08-2021  
Prem Kumar  
[Authorized Signatory]

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## Test Report

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| <b>Issued To</b><br>Jindal Steel & Power Limited<br>SH-63, Chendipada Road, Jindal Nagar, Angul<br>Angul | <b>Sample Reg. No.</b> :E01-2108030073<br><b>Sample Reg. Date</b> :03-08-2021<br><b>Report Date</b> :13-08-2021<br><b>Report No.</b> :ICE-2108130323<br><b>NABL ULR No.</b> :TC592621000008565F<br><b>Customer Ref. No.:</b> WO<br><b>Letter Dated</b> :03.04.2021 |
|----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**NOTE :** NA- Not Applicable, BLQ- Below limit of Quantification, LOQ- Limit of Quantification, Requirements as per NAAQS 2009, Sample collected by lab rep. on 20.07.2021, Sampling Procedure - SOP/ITC/EW/056

**REMARKS :**N/A

\*\*\*\*\*End Of Report\*\*\*\*\*



Saurabh Sharma  
13-08-2021  
Reviewer



13-08-2021  
PremKumar  
[Authorized Signatory]

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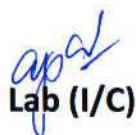
Ref. No.: EMD/LAB/2021-22/12

Date: 15.04.2021

**AMBIENT NOISE MONITORING REPORT**

Area : Plant Area  
 Monitoring date : 12.04.21  
 Monitoring done by : EMD

| Sl. No.  | Location                                      | Result dB (A)           |                           |
|----------|-----------------------------------------------|-------------------------|---------------------------|
|          |                                               | Day time (6 am – 10 pm) | Night time (10 pm – 6 am) |
| 1        | Kaliakata gate<br>(N20°53.99' E84°59.14' )    | 72.1                    | 62.4                      |
| 2        | Labor hutment gate<br>(N20°53.17' E84°59.90') | 73.1                    | 68.7                      |
| 3        | Golabandha gate<br>(N20°51.95' E85°00.06')    | 72.6                    | 68.1                      |
| 4        | DRI gate<br>(N20°52.75' E84°58.88')           | 70.2                    | 66.8                      |
| 5        | Backside of CGP<br>(N20°53.79' E84°59.62')    | 70.1                    | 63.4                      |
| 6        | Phase 2 gate<br>(N20°53.45' E84°58.89')       | 72.4                    | 68.1                      |
| 7        | Sankerjang gate<br>(N20°51.73' E84°59.48')    | 73.8                    | 66.3                      |
| Standard |                                               | 75                      | 70                        |


 Lab (I/C)


 HOD (EMD)

Ref. No.: EMD/LAB/2021-22/29

Date: 17.05.2021

## AMBIENT NOISE MONITORING REPORT

Area : Plant Area  
Monitoring date : 10.05.21  
Monitoring done by : EMD

| Sl. No.  | Location                                      | Result dB (A)           |                           |
|----------|-----------------------------------------------|-------------------------|---------------------------|
|          |                                               | Day time (6 am – 10 pm) | Night time (10 pm – 6 am) |
| 1        | Kaliakata gate<br>(N20°53.99' E84°59.14')     | 71.6                    | 63.4                      |
| 2        | Labor hutment gate<br>(N20°53.17' E84°59.90') | 74.5                    | 67.0                      |
| 3        | Golabandha gate<br>(N20°51.95' E85°00.06')    | 73.7                    | 66.0                      |
| 4        | DRI gate<br>(N20°52.75' E84°58.88')           | 72.9                    | 67.4                      |
| 5        | Backside of CGP<br>(N20°53.79' E84°59.62')    | 71.1                    | 61.2                      |
| 6        | Phase 2 gate<br>(N20°53.45' E84°58.89')       | 74.6                    | 67.6                      |
| 7        | Sankerjang gate<br>(N20°51.73' E84°59.48')    | 72.8                    | 65.2                      |
| Standard |                                               | 75                      | 70                        |

  
Lab (I/C)

  
HOD (EMD)



Ref. No.: EMD/LAB/2021-22/46

Date: 14.06.2021

**AMBIENT NOISE MONITORING REPORT**

Area : Plant Area  
Monitoring date : 08.06.21  
Monitoring done by : EMD

| Sl. No.  | Location                                      | Result dB (A)           |                           |
|----------|-----------------------------------------------|-------------------------|---------------------------|
|          |                                               | Day time (6 am – 10 pm) | Night time (10 pm – 6 am) |
| 1        | Kaliakata gate<br>(N20°53.99' E84°59.14' )    | 70.2                    | 61.3                      |
| 2        | Labor hutment gate<br>(N20°53.17' E84°59.90') | 71.8                    | 68.2                      |
| 3        | Golabandha gate<br>(N20°51.95' E85°00.06')    | 73.8                    | 67.1                      |
| 4        | DRI gate<br>(N20°52.75' E84°58.88')           | 72.6                    | 68.0                      |
| 5        | Backside of CGP<br>(N20°53.79' E84°59.62')    | 69.6                    | 62.4                      |
| 6        | Phase 2 gate<br>(N20°53.45' E84°58.89')       | 74.1                    | 68.7                      |
| 7        | Sankerjang gate<br>(N20°51.73' E84°59.48')    | 70.9                    | 66.4                      |
| Standard |                                               | 75                      | 70                        |

  
Lab (I/C)

  
HOD (EMD)

Ref. No.: EMD/LAB/2021-22/64

Date: 19.07.2021

## AMBIENT NOISE MONITORING REPORT

Area : Plant Area  
Monitoring date : 14.07.21  
Monitoring done by : EMD

| Sl. No.  | Location                                      | Result dB (A)           |                           |
|----------|-----------------------------------------------|-------------------------|---------------------------|
|          |                                               | Day time (6 am – 10 pm) | Night time (10 pm – 6 am) |
| 1        | Kaliakata gate<br>(N20°53.99' E84°59.14' )    | 72.8                    | 64.9                      |
| 2        | Labor hutment gate<br>(N20°53.17' E84°59.90') | 74.4                    | 65.7                      |
| 3        | Golabandha gate<br>(N20°51.95' E85°00.06')    | 71.0                    | 63.6                      |
| 4        | DRI gate<br>(N20°52.75' E84°58.88')           | 72.7                    | 64.7                      |
| 5        | Backside of CGP<br>(N20°53.79' E84°59.62')    | 71.5                    | 63.8                      |
| 6        | Phase 2 gate<br>(N20°53.45' E84°58.89')       | 73.2                    | 68.3                      |
| 7        | Sankerjang gate<br>(N20°51.73' E84°59.48')    | 71.7                    | 64.3                      |
| Standard |                                               | 75                      | 70                        |

  
Lab (I/C)

  
HOD (EMD)

Ref. No.: EMD/LAB/2021-22/80

Date: 14.08.2021

**AMBIENT NOISE MONITORING REPORT**

Area : Plant Area  
Monitoring date : 10.08.21  
Monitoring done by : EMD

| Sl. No.  | Location                                      | Result dB (A)           |                           |
|----------|-----------------------------------------------|-------------------------|---------------------------|
|          |                                               | Day time (6 am – 10 pm) | Night time (10 pm – 6 am) |
| 1        | Kaliakata gate<br>(N20°53.99' E84°59.14' )    | 70.4                    | 61.4                      |
| 2        | Labor hutment gate<br>(N20°53.17' E84°59.90') | 72.6                    | 64.3                      |
| 3        | Golabandha gate<br>(N20°51.95' E85°00.06')    | 70.3                    | 62.4                      |
| 4        | DRI gate<br>(N20°52.75' E84°58.88')           | 73.2                    | 65.1                      |
| 5        | Backside of CGP<br>(N20°53.79' E84°59.62')    | 72.9                    | 64.9                      |
| 6        | Phase 2 gate<br>(N20°53.45' E84°58.89')       | 73.6                    | 65.8                      |
| 7        | Sankerjang gate<br>(N20°51.73' E84°59.48')    | 72.8                    | 61.6                      |
| Standard |                                               | 75                      | 70                        |

  
Lab (I/C)

  
HOD (EMD)



Ref. No.: EMD/LAB/2021-22/96

Date: 13.09.2021

**AMBIENT NOISE MONITORING REPORT**

Area : Plant Area  
Monitoring date : 09.09.21  
Monitoring done by : EMD

| Sl. No.  | Location                                      | Result dB (A)           |                           |
|----------|-----------------------------------------------|-------------------------|---------------------------|
|          |                                               | Day time (6 am – 10 pm) | Night time (10 pm – 6 am) |
| 1        | Kaliakata gate<br>(N20°53.99' E84°59.14')     | 71.3                    | 67.4                      |
| 2        | Labor hutment gate<br>(N20°53.17' E84°59.90') | 73.7                    | 66.5                      |
| 3        | Golabandha gate<br>(N20°51.95' E85°00.06')    | 71.9                    | 66.9                      |
| 4        | DRI gate<br>(N20°52.75' E84°58.88')           | 74.1                    | 68.4                      |
| 5        | Backside of CGP<br>(N20°53.79' E84°59.62')    | 72.8                    | 65.9                      |
| 6        | Phase 2 gate<br>(N20°53.45' E84°58.89')       | 72.9                    | 64.7                      |
| 7        | Sankerjang gate<br>(N20°51.73' E84°59.48')    | 71.7                    | 63.1                      |
| Standard |                                               | 75                      | 70                        |

  
Lab (I/C)

  
HOD (EMD)

**List of Instruments present in EMD Lab**

| <b>Sl. No.</b> | <b>Name of the equipment</b>                   | <b>Make</b>        | <b>Model</b>       | <b>Total number</b> |
|----------------|------------------------------------------------|--------------------|--------------------|---------------------|
| 1              | Digital Balance                                | Denver             | SI234              | 1                   |
| 2              | pH meter                                       | Sistronics         | 6793               | 1                   |
| 3              | Turbidity meter                                | Sistronics         | 431                | 1                   |
| 4              | UV Spectrophotometer                           | Shimatzu           | UV1800             | 1                   |
| 5              | Ion selective electrode                        | Thermo Fisher      | VSTAR              | 2                   |
| 6              | Portable DO meter                              | WTW                | DUROX 325          | 1                   |
| 7              | BOD self check                                 | Velp               | BOD EVO sensor     | 6                   |
| 8              | BOD incubator                                  | ACMAS              | OR403              | 1                   |
| 9              | COD digester                                   | Spectra Lab        | 2015M              | 1                   |
| 10             | Flame photometer                               | BWB                | BWB XP             | 1                   |
| 11             | Hot air oven                                   | Acmas              | ACM220661          | 1                   |
| 12             | Oil & grease analyzer                          | Horiba             | OCMA 350E          | 1                   |
| 13             | Water level indicator                          | Insitu INC         |                    | 1                   |
| 14             | Portable TDS meter                             | Hach               | Pocket Pro Multi 2 | 1                   |
| 15             | Hot Plate                                      | Unitech            | UTS1.27C           | 1                   |
| 16             | Water Bath                                     | Unitech            | UTS1.05A           | 1                   |
| 17             | Flue gas analyzer                              | Kane               | KM9106             | 2                   |
| 18             | Stack monitoring kit                           | Envirotech         | APM620 & VSS1      | 2                   |
| 19             | PM10 analyzer                                  | Envirotech         | APM460BL           | 8                   |
| 20             | PM2.5 analyzer                                 | Envirotech         | APM550             | 8                   |
| 21             | Sound level meter                              | Cirrus & Quest     | CR171B & DLX       | 2                   |
| 22             | Area heat stress monitor                       | Quest              | 3M                 | 1                   |
| 23             | Anemometer                                     | Pacerist           | DA 400             | 1                   |
| 24             | Online ambient air quality monitoring analyzer | Environnement SA   |                    | 4                   |
| 25             | Online Meteorological station                  | Ecotech, Australia |                    | 2                   |
| 26             | Portable dust analyzer                         | Serrex Technology  | PM1025             | 1                   |



**ORGANOGRAM OF ENVIRONMENT MANAGEMENT DEPARTMENT**