



Ref: JSWE(B)L/ENV/21-22/007

Date: 14.05.2021

To,  
**The Member Secretary**  
**Rajasthan State Pollution Control Board**  
**4-Institutional Area, Jhalana Doongari,**  
**Jaipur – 302004**

**Sub: Compliance Report – Consent to Operate Environmental Clearance for 1080 MW Lignite based Power Plant at Village-Bhadresh, District Barmer.**

**Ref: Consent to Operate**

1. Compliance to CTO for Unit 1 & 2, File No. **F(HDF)/Barmer(Barmer)/9(1)/2016-2017/28-30 Order No. 2020-2021/CPM/5618, Dt: 27/04/2020.**
2. Compliance to CTO for Unit 3 & 4, File No. **F(HDF)/Barmer(Barmer)/9(1)/2016-2017/31-33 Order No: 2020-2021/CPM/5619, Dated: 27/04/2020.**
3. Compliance to CTO for Unit 5 & 6, File No. **F(HDF)/Barmer(Barmer)/12(1)/2017-2018/1505-1507; Order No. 2017-2018/HDF/2564, Dt: 30/05/2017.**
4. Compliance to CTO for Unit 7 & 8, File No. **F(HDF)/Barmer(Barmer)/12(1)/2017-2018/1502-1504; Order No. 2017-2018/HDF/2563, Dt: 30/05/2017.**

Dear Sir,

With reference to Consent To Operate issued for Unit # 1-2, 3-4, 5-6 and 7-8 for operating 1080 MW (8 x 135 MW) Lignite Based Thermal Plant of M/s JSW ENERGY (BARMER) Ltd, Dist.- Barmer, Rajasthan, we herewith submit half-yearly compliance report, for the period pertaining to **OCT – 2020 to MAR– 2021**, for the conditions stipulated in the Environmental clearance issued for this Power Project. Analysis Data has uploaded on JSWEBL website - <http://www.jsw.in/energy/about-barmer-plant>.

We have taken up the Operation activity at the Power Plant as per the conditions stipulated in this Consent to Operate.

Thanking you.

For JSW ENERGY (BARMER) Ltd.

Vinod Jindal  
AGM (LHS, Environment & Chemistry)

**Enclosure:**

1. Compliance Report
2. Stack monitoring Data **\_Annexure-I**
3. CEMS Monitoring Data **\_Annexure-II**
4. AAQ Monitoring Data **\_Annexure-III**
5. Effluent Water Data **\_Annexure-IV**
6. STP Treated Water Quality **\_Annexure-V**

**C.C.** The Regional Officer – RSPCB, Balotara.

### Compliance to CTO for Unit 1 & 2

File No. F(HDF)/Barmer(Barmer)/9(1)/2016-2017/28-30.

Order No. 2020-2021/CPM/5618, Dt: 27/04/2020.

| SN | Condition   | Compliance   |
|----|---|--|
| 1  | That this Consent to Operate is valid for a period from <b>01/01/2019 to 31/12/2023</b>   | Units are operated during the stipulated period.   |
| 2  | That this consent is granted for manufacturing / producing following products / by Products or carrying out the following activities or operation/processes or providing following services with capacities of 270 MW.  | The 8 x 135 MW lignite based Power project was designed with a total capacity of 1080 MW.<br><br>As per this Consent, <b>Unit 1 &amp; 2</b> will be operated to generate 270 MW of power.  |
| 3  | That this consent to operate is for existing plant, process & capacity and separate consent to establish/operate is required to be taken for any addition/modification/alteration in process or change in capacity or change in fuel  | Noted and shall be complied  |
| 4  | That the quantity of effluent generation and disposal along with mode of disposal for the Treated effluent.<br>a. Domestic 75 KLD<br>b. Industrial 9800 KLD<br>c. Discharge Out Side Premises - NIL   | Quantity of waste water generation will not exceed the stipulated. There would be no discharge outside the plant premises.<br>All treated domestic sewage is being used in green belt development.   |
| 5  | That the sources of air emissions along with pollution control measures and the Emission standards for the prescribed parameters shall be:<br>SO <sub>2</sub> 600 mg/Nm <sup>3</sup><br>Particulate Matter 50 mg/Nm <sup>3</sup><br>NO <sub>x</sub> 300 mg/Nm <sup>3</sup><br>Hg compounds and its 0.03 mg/Nm <sup>3</sup><br><br>DG Set (2 x 1000KVA)<br>Acoustic Enclosure<br>NO <sub>x</sub><br>NMHC<br>PM<br>CO | Boiler System is designed with Circulating Fluidised bed Technology – we are adding Lime along with Fuel firing.<br><br>ESP is designed to comply with Stack Emission standard as stipulated.<br><br>DG Sets are procured of designed to comply with Environmental Emission standard as stipulated |

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| 6  | That the domestic sewage shall be treated before disposal so as to conform to the Standards prescribed by the Board as notified under the Environment (protection) Act-1986 for disposal on Land for irrigation. The main parameters for regular monitoring.   | Domestic Sewage will be treated and used for green belt development inside the plant area.   |
| 7  | That the trade effluent shall be treated before disposal so as to conform to the Standards prescribed under the Environment (protection) Act-1986 for disposal into Inland surface water.  | The trade effluent is being treated in ETP to comply with the stipulation. Regular monitoring shall be carried out covering the main parameters stipulated.  |
| 8  | That this consent to operate is valid for power generation of 270 MW capacity with the help of two lignite fired boiler of 440 TPH each.   | The 8 x 135 MW lignite based Power project was designed with a total capacity of 1080 MW.<br><br>As per this Consent, Unit 1 & 2 will be operated to generate 270 MW of power.                                   |
| 9  | That the industry shall comply with all the conditions imposed by MoEF, Governments of India vide its office letter no.F.No.J-13011/58/2006-IAII (I) dated 20/07/2007 while issuing EC to your project.  | Being complied.  |
| 10 | That the total capital investment as on 31.03.2018 as per the C. A certificate submitted by the unit is Rs 1623.34 crore which includes the cost of Land, building, plant & machinery and miscellaneous assets only.   | Noted.   |
| 11 | That guidelines on co-processing in cement/ Power/ Steel industries issued by Central Pollution Control Board shall be complied.   | Being complied.  |
| 12 | That the industry shall comply with the emission standards prescribed for Power Plants under the Environment (Protection) Rules, 1986.   | Being complied.  |
| 13 | That the industry shall comply with the emission standards for thermal power plants as notified by MoEF, GoI New Delhi vide gazette notification dated 07/12/2015 and directions issued by Central Pollution Control Board / MOEF from time to time in this regard.  | Being Complied.  |
| 14 | That the industry shall maintain online continuous monitoring system at stack attached to boiler to monitor the emission level of particulate matter(PM),SO <sub>2</sub> ,NO <sub>x</sub> ,Hg along with for effluents and connectivity of the same shall be ensured with RPCB/CPCB server whenever plant is operated. | All these stacks being equipped with Continuous Emission Monitoring Systems (CEMS) and connected to PCB Servers, to ensure the emission of PM, SO <sub>2</sub> , NO <sub>x</sub> to be within prescribed levels. |

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| 15 | That the industry shall comply with the guidelines of August, 2018 issued by CPCB for "Continuous Emission Monitoring Systems".  | Being Complied.   |
| 16 | That industry shall maintain adequate stack height and acoustic enclosures at the two DG sets of 1000 KVA each capacity.   | DG Stack equipped by acoustic enclosure with adequate height.   |
| 17 | That safe & adequate infrastructure facility in accordance with emission regulation Part-III issued by the Central Pollution Control Board shall be maintained at the stack attached to the boiler & DG Sets for stack emission monitoring.  | Being complied.   |
| 18 | That no other fuel except lignite shall be used in boiler of the power plant without prior permission from the State Board.  | Noted shall be complied.  |
| 19 | That no additional source of air emission shall be installed without prior consent from the State Board.   | Noted shall be complied.  |
| 20 | That all the raw materials (coal etc) shall be stored in closed covered shed and storage facility for coal shall be further strengthened & coal shall not be stored in open areas.   | Coal yard equipped with Dust Extraction & suppression Systems at required location and water spray system also equipped to diffuse and suppress any fugitive emissions. |
| 21 | That power supply to the production/process shall be interlocked with the pollution control equipment's that in the event of non-functioning of the pollution equipment the production process stops automatically.  | CEMS and AQMS connected to PCB server and any non-functioning of equipment's sets off a system alarm and action taken on top priority to rectify the same.              |
| 22 | That total fresh water requirement from Indira Gandhi Canal shall be 21750KLD(boiler/cooling-21000 KLD+Domestic-150 KLD + Industrial Process-600 KLD) and no ground water shall be abstracted from the ground without prior permission from the Central Ground Water Authority (CGWA). | Being complied.   |
| 23 | That the industry shall maintain zero discharge status outside the premises. No effluent shall be discharged outside the premises of the industry under any circumstances.   | All the effluent will be used inside the plant premises for green belt, road dust suppression and Ash Pond Dust Suppression.  |
| 24 | That suitable measure for rain water harvesting for artificial recharge of ground water shall be taken.  | Rain Water Harvesting is conceptualized in the design of the Plant and a small RH tank is prepared  |

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| 25 | That suitable flow measuring devices/meters on the intake source of water, inlet and outlet of effluent treatment/sewage treatment plant shall be installed and maintained. Daily record of water consumption, effluent generation and its treatment and utilization shall be maintained. | Water is being drawn from IGNP canal - same has metered.<br><br>Flow meters provided at Outlet of STP and ETP.<br><br>Water mass balance record maintained on daily basis                             |
| 26 | That the industry shall submit time bound action plan for installation of FGD.  | The Project is based on Circulating Fluidized Base Combustion technology for fuel firing and involves injection of lime, which absorbs Sulphur.<br><br>However space provision has been made for FGD. |
| 27 | The domestic effluent shall be treated up to prescribed standards and shall be used for plantation/ green belt development within or outside of the premises.   | Treated Domestic Sewage is being treated and used for in house plantation/ green belt development.  |
| 28 | That the Ministry of Environment and Forest, Govt. of India, Notification dated 14/09/1999 (amended till date) related to the fly ash management, shall be complied and monthly compliance reports shall be submitted to the State Board.   | Ash will be utilized as per MOEF guidelines and reported.   |
| 29 | That the plantation in at least 33% of total area of the plant premises in and around the plant shall be carried out & maintained.  | Complied.   |
| 30 | That the industry shall obtain Environmental Clearance from competent authority under EIA Notification dated 14.09.2016 for any such activity which attracts Environmental Clearance under EIA Notification dated 14.09.2006.   | Noted shall be complied   |
| 31 | That the industry shall comply with the provisions of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and record of daily hazardous waste generation and its disposal shall be maintained.   | Being Complied  |
| 32 | That this Consent to Operate shall be subjected to compliance of any direction or order passed by NGT/ Hon'ble Court of law in the matter.  | Being complied  |
| 33 | That the industry shall not use pet coke/furnace oil as fuel in the power plant in compliance to the order dated 24/10/2017 of Hon'ble Supreme Court, wherein ban has been imposed on the use of pet coke and furnace oil in the State of Rajasthan.                                      | Being complied  |

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| 34 | That all the recommendations made in the Charter of Corporate Responsibility for Environment Protection for Thermal power plants shall be implemented.  | Being complied  |
| 35 | That cemented roads shall be provided and maintained inside the premises to minimize the fugitive emissions due to vehicular movements.   | RCC roads provided at all required location within the plant to control fugitive emissions. |
| 36 | That the industry shall also ensure the compliance of all the conditions of consent order no. 2016-2017/HDF/2505 dt 03.01.2017.   | Being Complied  |
| 37 | That the industry shall submit the half yearly compliance report of all the above conditions to the State Board.  | Noted shall be complied.  |
| 38 | That, notwithstanding anything provided hereinabove, the State Board shall have power and reserves its right, as contained under section 27(2) of the Water Act and under section 21(6) of the Air Act to review anyone or all the conditions imposed here in above and to make such variation as it deemed fit for the purpose of Air Act & Water Act.   | Being complied  |
| 39 | That the grant of this Consent to Operate is issued from the environmental angle only, and does not absolve the project proponent from the other statutory obligations prescribed under any other law or any other instrument in force. The sole and complete responsibility to comply with the conditions laid down in all other laws for the time-being in force, rests with the industry/ unit/ project proponent. | Noted shall be complied   |
| 40 | That the grant of this Consent to Operate shall not, in any way, adversely affect or jeopardize the legal proceeding, if any, instituted in the past or that could be instituted against you by the State Board for violation of the provisions of the Act or the Rules made thereunder.  | Being complied  |

### Compliance to CTO for Unit 3 & 4

File No. F(HDF)/Barmer(Barmer)/9(1)/2016-2017/31-33

Order No: 2020-2021/CPM/5619, Dated: 27/04/2020

| SN | Condition   | Compliance   |
|----|---|--|
| 1  | That this Consent to Operate is valid for a period from <b>01/12/2018 to 30/11/2023</b>   | Units are operated during the stipulated period.   |
| 2  | That this consent is granted for manufacturing / producing following products / by Products or carrying out the following activities or operation/processes or providing following services with capacities of 270 MW.  | The 8 x 135 MW lignite based Power project was designed with a total capacity of 1080 MW.<br><br>As per this Consent, <b>Unit 3 &amp; 4</b> will be operated to generate 270 MW of power.  |
| 3  | That this consent to operate is for existing plant, process & capacity and separate consent to establish/operate is required to be taken for any addition/modification/alteration in process or change in capacity or change in fuel  | Noted and shall be complied  |
| 4  | That the quantity of effluent generation and disposal along with mode of disposal for the Treated effluent.<br>a. Domestic 75 KLD<br>b. Industrial 9800 KLD<br>c. Discharge Out Side Premises - NIL   | Quantity of waste water generation will not exceed the stipulated. There would be no discharge outside the plant premises.<br><br>All treated domestic sewage is being used in green belt development.   |
| 5  | That the sources of air emissions along with pollution control measures and the Emission standards for the prescribed parameters shall be:<br>SO <sub>2</sub> 600 mg/Nm <sup>3</sup><br>Particulate Matter 50 mg/Nm <sup>3</sup><br>NO <sub>x</sub> 300 mg/Nm <sup>3</sup><br>Hg compounds and its 0.03 mg/Nm <sup>3</sup><br><br>DG Set (2 x 1000KVA)<br>Acoustic Enclosure<br>NO <sub>x</sub><br>NMHC<br>PM<br>CO | Boiler System is designed with Circulating Fluidised bed Technology – we are adding Lime along with Fuel firing.<br><br>ESP is designed to comply with Stack Emission standard as stipulated.<br><br>DG Sets are procured of designed to comply with Environmental Emission standard as stipulated |



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| 6  | That the Stage II (Unit- III & IV) plant will comply with the standards as prescribed vide MOEF notification no GSR 826(E) dated 16 <sup>th</sup> November, 2009 with respect to national Ambient Air Quality Standards.   | Being complied.  |
| 7  | That the domestic sewage shall be treated before disposal so as to conform to the Standards prescribed by the Board as notified under the Environment (protection) Act-1986 for disposal on Land for irrigation. The main parameters for regular monitoring.         | Domestic Sewage will be treated and used for green belt development inside the plant area.   |
| 8  | That the trade effluent shall be treated before disposal so as to conform to the Standards prescribed under the Environment (protection) Act-1986 for disposal into Inland surface water.  | The trade effluent is being treated in ETP to comply with the stipulation. Regular monitoring shall be carried out covering the main parameters stipulated.                    |
| 9  | That this consent to operate is valid for power generation of 270 MW capacity with the help of two lignite fired boiler of 440 TPH each.   | The 8 x 135 MW lignite based Power project was designed with a total capacity of 1080 MW.<br><br>As per this Consent, Unit 1 & 2 will be operated to generate 270 MW of power. |
| 10 | That the industry shall comply with all the conditions imposed by MoEF, Governments of India vide its office letter no.F.No.J-13011/58/2006-IAII (I) dated 20/07/2007 while issuing EC to your project.  | Being complied.  |
| 11 | That the total capital investment as on 31.03.2018 as per the C. A certificate submitted by the unit is Rs 1352.79 crore which includes the cost of Land, building, plant & machinery and miscellaneous assets only.   | Noted.   |
| 12 | That guidelines on co-processing in cement/ Power/ Steel industries issued by Central Pollution Control Board shall be complied.   | Noted - Shall be complied.   |
| 13 | That the industry shall comply with the emission standards prescribed for Power Plants under the Environment (Protection) Rules, 1986.   | Being complied.  |
| 14 | That the industry shall comply with the emission standards for thermal power plants as notified by MoEF, Govt New Delhi vide gazette notification dated 07/12/2015 and directions issued by Central Pollution Control Board / MOEF from time to time in this regard. | Being Complied.  |



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| 15 | That the industry shall maintain online continuous monitoring system at stack attached to boiler to monitor the emission level of particulate matter(PM),SO <sub>2</sub> ,NO <sub>x</sub> ,Hg along with for effluents and connectivity of the same shall be ensured with RPCB/CPCB server whenever plant is operated. | All these stacks being equipped with Continuous Emission Monitoring Systems (CEMS) and connected to PCB Servers, to ensure the emission of PM, SO <sub>2</sub> , NO <sub>x</sub> to be within prescribed levels. |
| 16 | That the industry shall comply with the guidelines of August, 2018 issued by CPCB for "Continuous Emission Monitoring Systems".  | Being Complied.  |
| 17 | That industry shall maintain adequate stack height and acoustic enclosures at the two DG sets of 1000 KVA each capacity.   | DG Stack equipped by acoustic enclosure with adequate height.  |
| 18 | That safe & adequate infrastructure facility in accordance with emission regulation Part-III issued by the Central Pollution Control Board shall be maintained at the stack attached to the boiler & DG Sets for stack emission monitoring.  | Being complied.  |
| 19 | That no other fuel except lignite shall be used in boiler of the power plant without prior permission from the State Board.  | Noted shell be complied.   |
| 20 | That no additional source of air emission shall be installed without prior consent from the State Board.   | Noted shell be complied.   |
| 21 | That all the raw materials (coal etc.) shall be stored in closed covered shed and storage facility for coal shall be further strengthened & coal shall not be stored in open areas.  | Coal yard equipped with Dust Extraction & suppression Systems at required location and water spray system also equipped to diffuse and suppress any fugitive emissions.  |
| 22 | That power supply to the production/process shall be interlocked with the pollution control equipment's that in the event of non-functioning of the pollution equipment the production process stops automatically.  | CEMS and AQMS connected to PCB server and any non-functioning of equipment's sets off a system alarm and action taken on top priority to rectify the same.   |
| 23 | That total fresh water requirement from Indira Gandhi Canal shall be 21750KLD(boiler/cooling-21000 KLD+Domestic-150 KLD + Industrial Process-600 KLD) and no ground water shall be abstracted from the ground without prior permission from the Central Ground Water Authority (CGWA).                                 | Being complied.  |
| 24 | That the industry shall maintain zero discharge status outside the premises. No effluent shall be discharged outside the premises of the industry under any circumstances.   | All the effluent will be used inside the plant premises for green belt, road dust suppression and Ash Pond Dust Suppression.   |

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| 25 | That suitable measure for rain water harvesting for artificial recharge of ground water shall be taken.   | Rain Water Harvesting is conceptualized in the design of the Plant and a small RH tank is prepared  |
| 26 | That suitable flow measuring devices/meters on the intake source of water, inlet and outlet of effluent treatment/sewage treatment plant shall be installed and maintained. Daily record of water consumption, effluent generation and its treatment and utilization shall be maintained. | Water is being drawn from IGNP canal - same has metered.<br><br>Flow meters provided at Outlet of STP and ETP.<br><br>Water mass balance record maintained on daily basis                             |
| 27 | That the industry shall submit time bound action plan for installation of FGD.  | The Project is based on Circulating Fluidized Base Combustion technology for fuel firing and involves injection of lime, which absorbs Sulphur.<br><br>However space provision has been made for FGD. |
| 28 | The domestic effluent shall be treated up to prescribed standards and shall be used for plantation/ green belt development within or outside of the premises.   | Treated Domestic Sewage is being treated and used for in house plantation/ green belt development.  |
| 29 | That the Ministry of Environment and Forest, Govt. of India, Notification dated 14/09/1999 (amended till date) related to the fly ash management, shall be complied and monthly compliance reports shall be submitted to the State Board.   | Ash will be utilized as per MOEF guidelines and reported.   |
| 30 | That the plantation in at least 33% of total area of the plant premises in and around the plant shall be carried out & maintained.  | Complied.   |
| 31 | That the industry shall obtain Environmental Clearance from competent authority under EIA Notification dated 14.09.2016 for any such activity which attracts Environmental Clearance under EIA Notification dated 14.09.2006.   | Noted shall be complied   |
| 32 | That the industry shall comply with the provisions of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and record of daily hazardous waste generation and its disposal shall be maintained.   | Being Complied  |
| 33 | That this Consent to Operate shall be subjected to compliance of any direction or order passed by NGT/ Hon'ble Court of law in the matter.  | Being complied  |

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| 34 | That the industry shall not use pet coke/furnace oil as fuel in the power plant in compliance to the order dated 24/10/2017 of Hon'ble Supreme Court, wherein ban has been imposed on the use of pet coke and furnace oil in the State of Rajasthan.  | Being complied  |
| 35 | That all the recommendations made in the Charter of Corporate Responsibility for Environment Protection for Thermal power plants shall be implemented.  | Being complied  |
| 36 | That cemented roads shall be provided and maintained inside the premises to minimize the fugitive emissions due to vehicular movements.   | RCC roads provided at all required location within the plant to control fugitive emissions. |
| 37 | That the industry shall also ensure the compliance of all the conditions of consent order no. 2016-2017/HDF/2506 dt 04.01.2017.   | Being Complied  |
| 38 | That the industry shall submit the half yearly compliance report of all the above conditions to the State Board.  | Being complied.   |
| 39 | That, notwithstanding anything provided hereinabove, the State Board shall have power and reserves its right, as contained under section 27(2) of the Water Act and under section 21(6) of the Air Act to review anyone or all the conditions imposed here in above and to make such variation as it deemed fit for the purpose of Air Act & Water Act.   | Being complied  |
| 40 | That the grant of this Consent to Operate is issued from the environmental angle only, and does not absolve the project proponent from the other statutory obligations prescribed under any other law or any other instrument in force. The sole and complete responsibility to comply with the conditions laid down in all other laws for the time-being in force, rests with the industry/ unit/ project proponent. | Noted shall be complied   |
| 41 | That the grant of this Consent to Operate shall not, in any way, adversely affect or jeopardize the legal proceeding, if any, instituted in the past or that could be instituted against you by the State Board for violation of the provisions of the Act or the Rules made thereunder.  | Being complied  |

### Compliance to CTO for Unit 5 & 6

File No. F(HDF)/Barmer(Barmer)/12(1)/2017-2018/1505-1507

Order No. 2017-2018/HDF/2564, Dt: 30/05/2017

| SN | Condition  | Compliance   |
|----|--|--|
| 1  | That this Consent to Operate is valid for a period from <b>01/11/2016 to 31/10/2021</b>  | Units are operated during the stipulated period.   |
| 2  | That this consent is granted for manufacturing / producing following products / by Products or carrying out the following activities or operation/processes or providing following services with capacities of 270 MW.                             | The 8 x 135 MW lignite based Power project was designed with a total capacity of 1080 MW.<br>As per this Consent, Unit 5 & 6 only will be operated to generate 270 MW of power.                    |
| 3  | That this consent to operate is for existing plant, process & capacity and separate consent to establish/operate is required to be taken for any addition/modification/alteration in process or change in capacity or change in fuel               | Noted and shall be complied  |
| 4  | That the quantity of effluent generation and disposal along with mode of disposal for the Treated effluent.<br>a. Domestic 75 KLD<br>b. Industrial 9800 KLD<br>c. Discharge Out Side Premises - NIL  | Quantity of waste water generation will not exceed the stipulated. There would be no discharge outside the plant premises.<br>All treated domestic sewage is being used in green belt development. |
| 5  | That the sources of air emissions along with pollution control measures and the Emission standards for the prescribed parameters shall be:<br>Boiler V: ESP: 100 mg/Nm <sup>3</sup><br>Boiler VI: ESP: 100 mg/Nm <sup>3</sup><br>DG Set (1000 KVA) | ESP is designed to comply with Stack Emission standard as stipulated.  |
| 6  | That the stage III (Unit V & VI) plant will comply with the standards as prescribed vide MOEF notification No. GSR 826(E) dated 16 <sup>th</sup> November 2009 with respect to National Ambient Air Quality Standards.                             | Being Complied.  |

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| 7  | That the domestic sewage shall be treated before disposal so as to conform to the Standards prescribed by the Board as notified under the Environment (protection) Act-1986 for disposal on Land for irrigation. The main parameters for regular monitoring. | Domestic Sewage will be treated and used for green belt development irrigation.  |
| 8  | That the trade effluent shall be treated before disposal so as to conform to the Standards prescribed under the Environment (protection) Act-1986 for disposal into Inland surface water.  | The trade effluent is being treated in ETP to comply with the stipulation. Regular monitoring shall be carried out covering the main parameters stipulated.  |
| 9  | That this consent to operate is being issued for production capacity of 2 x 135 MW (Unit 5 & 6) thermal plant  | Noted – Being Complied.  |
| 10 | That the total Project cost of the unit shall not exceed 1464.40 crores including cost of land, building, plant and machinery.   | Noted – Being Complied for Unit 5 & 6.   |
| 11 | That the industry shall comply with all the conditions imposed by MoEF, Governments of India vide its office letter no.F.No.J-13011/58/2006-IA(II)dated20/07/2007 while issuing EC to your project.  | Being complied.  |
| 12 | That all the conditions imposed vide letter no. F-Tech/Barmer (Barmer)/3(1)2008-2009/ 4403-4407 dated 20/09/2011 shall be complied.  | Being Complied.  |
| 13 | That the charter of Corporate Responsibility for Environment Protection specified for power plants shall be complied   | Being Complied.  |
| 14 | That the Industry will comply with the standards as prescribed vide MOEF notification No. GSR 826(E) dated 16 <sup>th</sup> November 2009 with respect to National Ambient Air Quality Standards.  | Being Complied.  |
| 15 | That the industry shall provide & maintain adequate dust collection and Extraction system to control fugitive dust emission at coal crusher and coal Transfer points and coal handling and storage areas.  | Dust Extraction & suppression Systems have been implemented at required location in lignite handling location. And road coal dust collector (mobile) unit is engaged at coal yard and nearby area to collect the same. |
| 16 | That the particulate emissions from stack of various sections of power plant shall Not exceed 100 mg/NM3 and continuous online arrangement for stack monitoring Of particular emissions shall be provided.   | ESP is designed to comply with Stack Emission standard as stipulated with continuous emission monitoring system is being installed for the monitoring of flue emissions.   |

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| 17 | That the industry shall maintain opacity meter with each boiler stack to monitor the emission level of particulate matter. The monthly observation will be submitted to R.O. Office along with the reason / clarification for any recorded violation of the prescribed standards. | Being Complied.  |
| 18 | The Low NOx burners shall be installed at boiler feeding system.  | Boiler system is designed on CFBC Technology in which lime is added to furnace for adsorb SOx and NOx generated during combustion of fuel.   |
| 19 | That the level of SPM within distance 3 -10 M from dust generating source/plant Shall not exceed to 600 mg/NM3 in ambient air.  | Necessary measures shall be taken to comply with the stipulation. All the locations are under monitoring.  |
| 20 | That for the control fugitive emission guidelines / code of practice as issued by CPCB will be followed.  | Necessary measures shall be taken to comply with the stipulation.  |
| 21 | That the project proponent shall undertake measures and ensure that no fugitive fly ash emissions take place at any point of time.  | Necessary measures shall be taken to comply with the stipulation.  |
| 22 | That Fly ash shall be collected in dry form and 100 % utilising shall be ensured by 28.02.2013. Ash to be disposed off in the pond shall be through HCSD system.  | Fly ash is being collected in dry form from the operational two Units and is being lifted by Cement Plants. Unutilized ash, if any, would be disposed off to the emergency ash pond through HCSD system. |
| 23 | That no industrial effluent will be discharged from the factory premises in to a Stream or well or sewer or land and the effluent generated from captive power Plant shall be used for ash quenching.   | All the effluent will be used inside the plant premises for green belt, road dust suppression and Ash Pond Dust Suppression.   |
| 24 | That the industrial effluent generated from R.O. rejects, DM plant & cooling Tower shall be neutralized & will be used for cooling proposes after taking it into Water circulation tank. No industrial effluent will be discharged inside or outside The factory premises.        | That the industrial effluent generated from D.M. rejects & cooling Tower is being used for cooling proposes after taking it into Water circulation tank.   |
| 25 | The domestic effluent shall be treated up to prescribed standards and shall be Used for plantation/green belt development within the premises.  | Domestic Sewage will be treated and using for in house plantation/ green belt development.   |



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| 26 | Ash pond shall be lined with HDPE/LDPE lining or any suitable impermeable media such that no leachate takes place at any point of time. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached.   | The ash pond is lined at the bottom with 0.5 mm thick HDPE geo-membrane, to avoid any leachate to the ground. |
| 27 | That no ground water shall be abstracted without prior permission from the State Board and Central Ground Water Authority.  | Being complied.   |
| 28 | That suitable flow measuring devices/meters on the intake source of water, inlet and outlet effluent treatment / sewage treatment plant shall be installed and Maintained. Daily record of water consumption, effluent generation and its Treatment and utilization shall be maintained.  | Being Complied.   |
| 29 | That suitable measure for rain water harvesting for artificial recharge of ground Water shall be taken.   | Rain Water Harvesting is conceptualized in the design of the Plant and a small RH tank is prepared            |
| 30 | The industry shall comply with the MoEF, Government of India, Notification date 14th September 1999 with till the date amendments relating to fly ash Management and shall provide relevant details to the state Board, MoEF, Government of India.  | Ash will be utilized as per MOEF guidelines and reported.   |
| 31 | That, notwithstanding anything provided hereinabove, the state board shall have power and reserves the right, as contained under section 27(2) of the water Act and under section 21(6) of the Air Act to review anyone or all the conditions imposed here in above and to make such variation as it deemed fit for the purpose of air act & water act  | Being Complied  |
| 32 | That the grant of this consent to operate is issued from the environmental angle only, and does not above absolve the project proponent from the other statutory obligations prescribed under any other law or any other instrument in force. The sole and complete responsibility to comply with the conditions laid down in all other laws for the time-being in force, rests with the industry/unit/project proponent. | Being Complied  |
| 33 | That the grant of the this consent to operate shall not, in any way, adversely affect or jeopardize the legal proceeding, if any, instituted in the past or that could be instituted against you by the state board for violation of the provision of the act or rules made thereunder  | Being Complied  |



### Compliance to CTO for Unit 7 & 8

File No. F(HDF)/Barmer(Barmer)/12(1)/2017-2018/1502-1504

Order No. 2017-2018/HDF/2563, Dt: 30/05/2017

| SN | Condition  | Compliance   |
|----|--|--|
| 1  | That this Consent to Operate is valid for a period from <b>01/11/2016 to 31/10/2021</b>  | Units are operated during the stipulated period.   |
| 2  | That this consent is granted for manufacturing / producing following products / by Products or carrying out the following activities or operation/processes or providing following services with capacities of 270 MW.               | The 8 x 135 MW lignite based Power project was designed with a total capacity of 1080 MW.<br>As per this Consent, <b>Unit 5 &amp; 6</b> only will be operated to generate 270 MW of power.         |
| 3  | That this consent to operate is for existing plant, process & capacity and separate consent to establish/operate is required to be taken for any addition/modification/alteration in process or change in capacity or change in fuel | Noted and shall be complied  |
| 4  | That the quantity of effluent generation and disposal along with mode of disposal for the Treated effluent.<br>a. Domestic 75 KLD<br>b. Industrial 9800 KLD<br>c. Discharge Out Side Premises - NIL                                  | Quantity of waste water generation will not exceed the stipulated. There would be no discharge outside the plant premises.<br>All treated domestic sewage is being used in green belt development. |
| 5  | That the sources of air emissions along with pollution control measures and the Emission standards for the prescribed parameters shall be:<br>Boiler VII: ESP: 100 mg/Nm <sup>3</sup><br>Boiler VIII: ESP : 100 mg/Nm <sup>3</sup>   | ESP is designed to comply with Stack Emission standard as stipulated.  |
| 6  | That the stage IV (Unit VII & VIII) plant will comply with the standards as prescribed vide MOEF notification No. GSR 826(E) dated 16 <sup>th</sup> November 2009 with respect to National Ambient Air Quality Standards.            | Being Complied.  |

|    |   |  |
|----|---|--|
| 7  | That the domestic sewage shall be treated before disposal so as to conform to the Standards prescribed by the Board as notified under the Environment (protection) Act-1986 for disposal into Inland Surface Water. The main parameters for regular monitoring. | Domestic Sewage will be treated and used for green belt development irrigation.  |
| 8  | That the trade effluent shall be treated before disposal so as to conform to the Standards prescribed under the Environment (protection) Act-1986 for disposal into Inland surface water.   | The trade effluent is being treated in ETP to comply with the stipulation. Regular monitoring shall be carried out covering the main parameters stipulated.  |
| 9  | That this consent to operate is being issued for production capacity of 2 x 135 MW (Unit 7 & 8) thermal plant   | Noted – Being Complied.  |
| 10 | That the total Project cost of the unit shall not exceed 1297.5 crores including cost of land, building, plant and machinery.   | Noted – Being Complied.  |
| 11 | That the industry shall comply with all the conditions imposed by MoEF, Governments of India vide its office letter no.F.No.J-13011/58/2006-IA(I)dated20/07/2007 while issuing EC to your project.  | Being complied.  |
| 12 | That all the conditions imposed vide letter no. F-Tech/Barmer (Barmer)/3(1)2008-2009/2487-2489 dated 04/07/2011 shall be complied.  | Being Complied.  |
| 13 | That the Charter of Corporate Responsibility for Environment Protection specified for power plants shall be complied  | Being Complied.  |
| 14 | That the Industry will comply with the standards as prescribed vide MOEF notification No. GSR 826(E) dated 16 <sup>th</sup> November 2009 with respect to National Ambient Air Quality Standards.   | Being Complied.  |
| 15 | That the industry shall provide & maintain adequate dust collection and Extraction system to control fugitive dust emission at coal crusher and coal Transfer points and coal handling and storage areas.   | Dust Extraction & suppression Systems have been implemented at required location in lignite handling location. And road coal dust collector (mobile) unit is engaged at coal yard and nearby area to collect the same. |

|    |   |  |
|----|---|--|
| 16 | That the particulate emissions from stack of various sections of power plant shall Not exceed 100 mg/NM3 and continuous online arrangement for stack monitoring Of particular emissions shall be provided.  | ESP is designed to comply with Stack Emission standard as stipulated with continuous emission monitoring system is being installed for the monitoring of flue emissions. |
| 17 | That the industry shall maintain opacity meter with each boiler stack to monitor the emission level of particulate matter. The monthly observation will be submitted to R.O. Office along with the reason / clarification for any recorded violation of the prescribed standards. | Being Complied.  |
| 18 | The Low NOx burners shall be installed at boiler feeding system.  | Boiler system is designed on CFBC Technology in which lime is added to furnace for adsorb SOx and NOx generated during combustion of fuel.                               |
| 19 | That the level of SPM within distance 3 -10 M from dust generating source/plant Shall not exceed to 600 mg/NM3 in ambient air.  | Necessary measures shall be taken to comply with the stipulation. All the locations are under monitoring.  |
| 20 | That the project proponent shall undertake measures and ensure that no fugitive fly ash emissions take place at any point of time.  | Necessary measures shall be taken to comply with the stipulation.  |
| 21 | That for the control fugitive emission guidelines / code of practice as issued by CPCB will be followed.  | Necessary measures shall be taken to comply with the stipulation.  |
| 22 | That no industrials effluent will be discharged from the factory premises in to a Stream or well or sewer or land and the effluent generated from captive power Plant shall be used for ash quenching.  | All the effluent will be used inside the plant premises for green belt, road dust suppression and Ash Pond Dust Suppression.   |
| 23 | That the industrial effluent generated from R.O. rejects, DM plant & cooling Tower shall be neutralized & will be used for cooling proposes after taking it into Water circulation tank. No industrial effluent will be discharged inside or outside The factory premises.        | That the industrial effluent generated from D.M. rejects & cooling Tower is being used for cooling proposes after taking it into Water circulation tank.                 |
| 24 | The domestic effluent shall be treated up to prescribed standards and shall be Used for plantation/green belt development within the premises.  | Domestic Sewage will be treated and using for in house plantation/ green belt development.   |
| 25 | That no ground water shall be abstracted without prior permission from the State Board and Central Ground Water Authority.  | Being complied.  |

|    |   |  |
|----|---|--|
| 26 | That suitable flow measuring devices/meters on the intake source of water, inlet and outlet effluent treatment / sewage treatment plant shall be installed and Maintained. Daily record of water consumption, effluent generation and its Treatment and utilization shall be maintained.  | Shall be complied with.  |
| 27 | That suitable measure for rain water harvesting for artificial recharge of ground Water shall be taken.   | Rain Water Harvesting is conceptualized in the design of the Plant and a small RH tank is prepared |
| 28 | The industry shall comply with the MoEF, Government of India, Notification date 14th September 1999 with till the date amendments relating to fly ash Management and shall provide relevant details to the state Board, MoEF, Government of India.  | Ash will be utilized as per MOEF guidelines and reported.  |
| 29 | That, notwithstanding anything provided hereinabove, the state board shall have power and reserves the right, as contained under section 27(2) of the water Act and under section 21(6) of the Air Act to review anyone or all the conditions imposed here in above and to make such variation as it deemed fit for the purpose of air act & water act  | Being Complied   |
| 30 | That the grant of this consent to operate is issued from the environmental angle only, and does not above absolve the project proponent from the other statutory obligations prescribed under any other law or any other instrument in force. The sole and complete responsibility to comply with the conditions laid down in all other laws for the time-being in force, rests with the industry/unit/project proponent. | Being Complied   |
| 31 | That the grant of the this consent to operate shall not, in any way, adversely affect or jeopardize the legal proceeding, if any, instituted in the past or that could be instituted against you by the state board for violation of the provision of the act or rules made thereunder  | Being Complied   |

## Compliance Status of Thermal Plant – Charter on Corporate Responsibility for Environmental Protection

| Sr. No. | CREP points for Thermal Plant   | Compliance status  |
|---------|---|--|
| 1       | Implementation of Environmental Standards (emission & effluent) in non-compliant* Power Plants (31 & 27)  | Project come up in 2006 – Not Applicable   |
|         | - Submission of action plan June 30, 2003   |  |
|         | - Placement of order for Pollution of control equipment September, 2003   |  |
|         | - Installation & commission December -31, 2005  |  |
| 2       | For existing thermal power plants, a feasibility study will be carried out by Central Electricity Authority (CEA) to examine possibility to reduce the particulate matter emissions to 100 mg/Nm <sup>3</sup> . The studies shall also suggest the road map to meet 100 mg/Nm <sup>3</sup> . The studies shall also suggest the road map to meet 100 mg/Nm <sup>3</sup> wherever found feasible. CEA shall submit the report by March 2004. | Project come up in 2006 – Project is designed for the particulate matter emissions to 100 mg/Nm <sup>3</sup> .<br><br>MOEF has also stipulated in EC conditions. |
| 3       | New / expansion power projects to be accorded environmental clearance on or after 1.4.1.2003 shall meet the limit of 100 mg/Nm <sup>3</sup> for particulate matter.   | Complied   |
| 4       | Development of SO <sub>2</sub> & NO <sub>x</sub> emission standards for coal based plants by December 2003.   | Complied as per EC conditions by MOEF & CFE & CTO conditions by RSPCB  |
|         | - New/ expansion power projects shall meet the limit of SO <sub>2</sub> & NO <sub>x</sub> w.e.f. 1.1.2005.  |  |
|         | - Existing power plants shall meet the limit of SO <sub>2</sub> & NO <sub>x</sub> w.e.f. 1.1.2006.  |  |
| 5       | Install/activate opacity meters/ continuous monitoring system in all the units by December 31, 2004 with proper calibration system.   | All Eight flue has provided with CEMS system with Opacity meter  |
| 6       | Development of guidelines/ standards for mercury and other toxic heavy metals emissions by December 2003.   | The project is Lignite Coal Based Pit head project and EC, CTO and CFE Conditions being complied.  |
|         |   | Both are well below the norms  |
| 7       | Review of stack height requirement and guidelines for power plants based on micro meteorological data by June 2003.   | Stack height has been designed as per Micro Meteorological conditions and condition of EC granted by MOEF.   |
| 8       | Implementation of use of beneficiated coal as per GOI Notification:   | Not Applicable   |
|         | Power plants will sign fuel supply agreement (FSA)  | - Project is pit head project and  |

|    |  |   |
|----|--|---|
|    | Options/mechanism for setting up of coal washeries as a long term measure  | designed on basis of Lignite coal from Adjacent Kapurdi and Jalipa Lignite.                                 |
|    | * Coal India will up its own washery   |   |
|    | * State Electricity Board to set up its own washery  |   |
|    | * Coal India to ask private entrepreneurs to set up washeries for CIL and taking washing charges   |   |
|    | * SEBs to select a private entrepreneur to set up a washery near pit-head installation of coal beneficiation plant   |   |
| 9  | Power plants will indicate their requirement of abandoned coal mines for ash disposal & Coal India/ MOC shall provide the list of abandoned mines by June 2003 to CEA.   | Complied  |
| 10 | Power plants will provide dry ash to the users outside the premises or uninterrupted access to the users within six months.  | This is in practice – Complied  |
| 11 | Power Plants should provide dry fly ash free of cost to the users.   | This is in practice – Complied  |
| 12 | State P.W.Ds/ construction & development agencies shall also adhere to the specifications/Schedules of CPWD for ash based products utilization MoEF will take up the matter with State Governments.  |   |
| 13 | (i) New plants to be accorded environmental 1.04.2003 shall adopt dry fly ash extraction or dry disposal system or Medium (35-40%) ash concentration slurry disposal system or Lean phase with hundred percent ash water re-circulation system depending upon site specific environmental situation. | Dry Fly ash Handling system is incorporated for better utilisation of Ash.                                  |
|    | (ii) Existing plants shall adopt any of the systems mentioned in 13 (i) by December 2004.  | Not applicable  |
| 14 | Fly ash Mission shall prepare guidelines/manuals for fly ash utilization by March 2004.  | Currently Cement Manufacturing Industries and Brick manufactures are lifting up Ash.                        |
| 15 | New plants shall promote adoption of clean coal and clean power generation technologies  | Project is pit head project and designed on basis of Lignite coal from Adjacent Kapurdi and Jalipa Lignite. |

# ANNEXURE-I

## STACK EMISSION MONITORING RESULTS OCT – 2020 to MAR – 2021

### Month: Oct' 2020

| SN | Parameters         | UOM                  | Unit-I | Unit-II | Unit-III | Unit-IV | Unit-V | Unit-VI | Unit-VII | Unit-VIII |
|----|--------------------|----------------------|--------|---------|----------|---------|--------|---------|----------|-----------|
| 1  | Average Velocity   | m/Sec                | 17.7   | 17.9    | 17.8     | 17.7    | 17.4   | 17.6    | 17.9     | 17.7      |
| 2  | Flow               | Nm <sup>3</sup> /Sec | 136    | 136     | 134      | 133     | 134    | 136     | 135      | 137       |
| 3  | Stack Exit Temp.   | °C                   | 142    | 139     | 158      | 152     | 127    | 134     | 135      | 144       |
| 4  | Particulate Matter | mg/Nm <sup>3</sup>   | 53.7   | 51.6    | 49.4     | 50.2    | 54.8   | 50.3    | 48.2     | 53.6      |
| 5  | Sulphur Dioxide    | mg/Nm <sup>3</sup>   | 462    | 482     | 467      | 471     | 462    | 469     | 474      | 471       |
| 6  | Oxides of Nitrogen | mg/Nm <sup>3</sup>   | 172    | 178     | 177      | 176     | 175    | 176     | 179      | 174       |

### Month: Nov' 2020

| SN | Parameters         | UOM                  | Unit-I | Unit-II | Unit-III | Unit-IV | Unit-V | Unit-VI | Unit-VII | Unit-VIII |
|----|--------------------|----------------------|--------|---------|----------|---------|--------|---------|----------|-----------|
| 1  | Average Velocity   | m/Sec                | 17.8   | 17.7    | 17.8     | 17.7    | 17.2   | 17.6    | 17.9     | 17.7      |
| 2  | Flow               | Nm <sup>3</sup> /Sec | 137    | 137     | 134      | 134     | 135    | 136     | 135      | 137       |
| 3  | Stack Exit Temp.   | °C                   | 146    | 141     | 148      | 149     | 132    | 134     | 135      | 144       |
| 4  | Particulate Matter | mg/Nm <sup>3</sup>   | 52.9   | 54.6    | 49.4     | 53.2    | 51.9   | 49.2    | 55.3     | 51.7      |
| 5  | Sulphur Dioxide    | mg/Nm <sup>3</sup>   | 461    | 485     | 467      | 478     | 473    | 477     | 471      | 476       |
| 6  | Oxides of Nitrogen | mg/Nm <sup>3</sup>   | 169    | 183     | 177      | 172     | 178    | 171     | 172      | 170       |

### Month: Dec' 2020

| SN | Parameters         | UOM                  | Unit-I | Unit-II | Unit-III | Unit-IV | Unit-V | Unit-VI | Unit-VII | Unit-VIII |
|----|--------------------|----------------------|--------|---------|----------|---------|--------|---------|----------|-----------|
| 1  | Average Velocity   | m/Sec                | 17.6   | 17.8    | 17.6     | 17.6    | 17.7   | 16.9    | 16.4     | 17.7      |
| 2  | Flow               | Nm <sup>3</sup> /Sec | 138    | 138     | 136      | 135     | 135    | 136     | 133      | 137       |
| 3  | Stack Exit Temp.   | °C                   | 148    | 142     | 152      | 153     | 132    | 134     | 134      | 144       |
| 4  | Particulate Matter | mg/Nm <sup>3</sup>   | 53.8   | 55.1    | 50.8     | 51.4    | 50.3   | 45.2    | 53.2     | 53.7      |
| 5  | Sulphur Dioxide    | mg/Nm <sup>3</sup>   | 467    | 486     | 462      | 470     | 467    | 477     | 469      | 471       |
| 6  | Oxides of Nitrogen | mg/Nm <sup>3</sup>   | 170    | 186     | 172      | 167     | 183    | 185     | 163      | 177       |



# ANNEXURE-I

## Month: Jan' 2021

| SN | Parameters         | UOM                  | Unit-I | Unit-II | Unit-III | Unit-IV | Unit-V | Unit-VI | Unit-VII | Unit-VIII |
|----|--------------------|----------------------|--------|---------|----------|---------|--------|---------|----------|-----------|
| 1  | Average Velocity   | m/Sec                | 17.2   | 17.2    | 17.6     | 17.8    | 17.6   | 16.3    | 16.1     | 17.5      |
| 2  | Flow               | Nm <sup>3</sup> /Sec | 139    | 137     | 138      | 135     | 136    | 136     | 134      | 139       |
| 3  | Stack Exit Temp.   | °C                   | 153    | 165     | 150      | 153     | 138    | 124     | 154      | 184       |
| 4  | Particulate Matter | mg/Nm <sup>3</sup>   | 68.1   | 45.1    | 54.9     | 53.2    | 38.7   | 33.2    | 40.1     | 54.3      |
| 5  | Sulphur Dioxide    | mg/Nm <sup>3</sup>   | 191    | 289     | 322      | 430     | 301    | 122     | 246      | 471       |
| 6  | Oxides of Nitrogen | mg/Nm <sup>3</sup>   | 131    | 79      | 132      | 158     | 68.1   | 60      | 43       | 107       |

## Month: Feb' 2021

| SN | Parameters         | UOM                  | Unit-I   | Unit-II | Unit-III | Unit-IV | Unit-V | Unit-VI | Unit-VII | Unit-VIII |
|----|--------------------|----------------------|----------|---------|----------|---------|--------|---------|----------|-----------|
| 1  | Average Velocity   | m/Sec                | Shutdown | 17.7    | 17.6     | 17.8    | 17.6   | 16.3    | 16.7     | 17.6      |
| 2  | Flow               | Nm <sup>3</sup> /Sec |          | 138     | 138      | 135     | 136    | 153     | 135      | 139       |
| 3  | Stack Exit Temp.   | °C                   |          | 201     | 148      | 153     | 144    | 174     | 124      | 184       |
| 4  | Particulate Matter | mg/Nm <sup>3</sup>   |          | 25.5    | 52.1     | 52.1    | 58.7   | 63.1    | 72.2     | 56.8      |
| 5  | Sulphur Dioxide    | mg/Nm <sup>3</sup>   |          | 289     | 322      | 360     | 391    | 422     | 466      | 441       |
| 6  | Oxides of Nitrogen | mg/Nm <sup>3</sup>   |          | 79.4    | 132      | 162     | 123    | 241     | 53       | 128       |

## Month: March' 2021

| SN | Parameters         | UOM                  | Unit-I | Unit-II | Unit-III | Unit-IV | Unit-V | Unit-VI | Unit-VII | Unit-VIII |
|----|--------------------|----------------------|--------|---------|----------|---------|--------|---------|----------|-----------|
| 1  | Average Velocity   | m/Sec                | 17.4   | 17.5    | 17.7     | 17.1    | 17.6   | 16.3    | 16.1     | 17.3      |
| 2  | Flow               | Nm <sup>3</sup> /Sec | 139    | 137     | 138      | 136     | 136    | 135     | 135      | 137       |
| 3  | Stack Exit Temp.   | °C                   | 182    | 167     | 153      | 149     | 145    | 179     | 126      | 186       |
| 4  | Particulate Matter | mg/Nm <sup>3</sup>   | 69.3   | 25.5    | 52.1     | 73.3    | 78.2   | 78.1    | 52.6     | 64.7      |
| 5  | Sulphur Dioxide    | mg/Nm <sup>3</sup>   | 413    | 364     | 322      | 353     | 413    | 372     | 446      | 473       |
| 6  | Oxides of Nitrogen | mg/Nm <sup>3</sup>   | 175    | 179     | 132      | 150     | 142    | 140     | 135      | 128       |

## ANNEXURE-II

### Unit # 1 - Continuous Emission Monitoring System-CEMS DATA

| Month  |         | SOX mg/m3 | NOX mg/m3 | SPM mg/m3 |
|--------|---------|-----------|-----------|-----------|
| Oct-20 | Average | 296.1     | 142.0     | 58.4      |
|        | Max     | 387.0     | 170.3     | 63.9      |
| Nov-20 | Average | 462.7     | 169.2     | 53.8      |
|        | Max     | 561.0     | 192       | 63.5      |
| Dec-20 | Average | 316.7     | 326.8     | 61.4      |
|        | Max     | 461.6     | 164.0     | 71.0      |
| Jan-21 | Average | 248.8     | 93.0      | 67.0      |
|        | Max     | 383.8     | 169.4     | 75.8      |
| Feb-21 | Average | shutdown  |           |           |
|        | Max     |           |           |           |
| Mar-21 | Average | 412.9     | 165.0     | 57.9      |
|        | Max     | 449.2     | 206.6     | 66.9      |

### Unit # 2 - Continuous Emission Monitoring System-CEMS DATA

| Month  |         | SOX mg/m3 | NOX mg/m3 | SPM mg/m3 |
|--------|---------|-----------|-----------|-----------|
| Oct-20 | Average | 354.8     | 135.7     | 55.1      |
|        | Max     | 398.2     | 243.6     | 76.4      |
| Nov-20 | Average | 453.5     | 183.7     | 31.5      |
|        | Max     | 544.0     | 245.0     | 59.5      |
| Dec-20 | Average | 229.8     | 120.1     | 44.9      |
|        | Max     | 364.5     | 195.8     | 53.1      |
| Jan-21 | Average | 287.2     | 118.4     | 38.9      |
|        | Max     | 370.7     | 226.0     | 59.0      |
| Feb-21 | Average | 321.7     | 151.1     | 47.5      |
|        | Max     | 375.9     | 203.9     | 76.9      |
| Mar-21 | Average | 338.7     | 145.8     | 56.8      |
|        | Max     | 410.1     | 212.9     | 74.6      |

## ANNEXURE-II

### Unit # 3 - Continuous Emission Monitoring System-CEMS DATA

| Month  |         | SOX mg/m3 | NOX mg/m3 | SPM mg/m3 |
|--------|---------|-----------|-----------|-----------|
| Oct-20 | Average | 359.9     | 194.8     | 64.6      |
|        | Max     | 431.3     | 244.4     | 74.7      |
|        |         |           |           |           |
| Nov-20 | Average | 380.1     | 183.9     | 64.8      |
|        | Max     | 454.3     | 228.9     | 73.4      |
|        |         |           |           |           |
| Dec-20 | Average | 393.8     | 135.5     | 65.0      |
|        | Max     | 464.6     | 226.6     | 76.2      |
|        |         |           |           |           |
| Jan-21 | Average | 340.3     | 124.1     | 38.3      |
|        | Max     | 439.6     | 179.2     | 60.2      |
|        |         |           |           |           |
| Feb-21 | Average | 378.7     | 161.9     | 62.7      |
|        | Max     | 429.0     | 191.1     | 78.5      |
|        |         |           |           |           |
| Mar-21 | Average | 365.3     | 170.8     | 72.9      |
|        | Max     | 448.6     | 213.3     | 76.2      |

### Unit # 4 - Continuous Emission Monitoring System-CEMS DATA

| Month  |         | SOX mg/m3 | NOX mg/m3 | SPM mg/m3 |
|--------|---------|-----------|-----------|-----------|
| Oct-20 | Average | 410.0     | 159.2     | 57.3      |
|        | Max     | 530.0     | 256.4     | 77.1      |
|        |         |           |           |           |
| Nov-20 | Average | 420.6     | 157.5     | 47.6      |
|        | Max     | 460.9     | 197.6     | 77.7      |
|        |         |           |           |           |
| Dec-20 | Average | 397.8     | 150.6     | 57.6      |
|        | Max     | 428.6     | 179.4     | 85.9      |
|        |         |           |           |           |
| Jan-21 | Average | 387.44    | 138.8     | 53.3      |
|        | Max     | 474.3     | 195.5     | 75.3      |
|        |         |           |           |           |
| Feb-21 | Average | 394.5     | 205.7     | 50.9      |
|        | Max     | 581.5     | 224.3     | 72.7      |
|        |         |           |           |           |
| Mar-21 | Average | 457.7     | 204.5     | 51.2      |
|        | Max     | 580.5     | 261.8     | 79.9      |

# **ANNEXURE-II**

## **Unit # 5 - Continuous Emission Monitoring System-CEMS DATA**

| Month  |         | SOX mg/m3 | NOX mg/m3 | SPM mg/m3 |
|--------|---------|-----------|-----------|-----------|
| Oct-20 | Average | 359.4     | 133.1     | 36.0      |
|        | Max     | 430.9     | 243.1     | 52.4      |
| Nov-20 | Average | 386.7     | 77.3      | 52.4      |
|        | Max     | 454.4     | 130.9     | 70.2      |
| Dec-20 | Average | 350.4     | 80.2      | 66.7      |
|        | Max     | 416.2     | 148.4     | 77.3      |
| Jan-21 | Average | 355.6     | 92.0      | 49.9      |
|        | Max     | 418.1     | 170.1     | 62.5      |
| Feb-21 | Average | 365.5     | 81.2      | 62.9      |
|        | Max     | 415.9     | 138.9     | 75.9      |
| Mar-21 | Average | 411.3     | 141.9     | 75.9      |
|        | Max     | 558.8     | 191.9     | 79.6      |

## **Unit # 6 - Continuous Emission Monitoring System-CEMS DATA**

| Month  |         | SOX mg/m3 | NOX mg/m3 | SPM mg/m3 |
|--------|---------|-----------|-----------|-----------|
| Oct-20 | Average | 377.0     | 140.6     | 52.7      |
|        | Max     | 418.4     | 168.0     | 57.0      |
| Nov-20 | Average | 327.4     | 83.3      | 54.8      |
|        | Max     | 417.6     | 111.6     | 60.4      |
| Dec-20 | Average | 360.0     | 94.4      | 57.0      |
|        | Max     | 415.8     | 171.4     | 59.2      |
| Jan-21 | Average | 314.0     | 114.3     | 57.7      |
|        | Max     | 426.4     | 240.5     | 62.0      |
| Feb-21 | Average | 365.1     | 203.2     | 67.2      |
|        | Max     | 434.3     | 264.8     | 72.2      |
| Mar-21 | Average | 364.3     | 71.1      | 74.4      |
|        | Max     | 421.6     | 110.1     | 75.9      |

**ANNEXURE-II**
**Unit # 7 - Continuous Emission Monitoring System-CEMS DATA**

| Month  |         | SOX mg/m3 | NOX mg/m3 | SPM mg/m3 |
|--------|---------|-----------|-----------|-----------|
| Oct-20 | Average | 400.5     | 95.5      | 70.0      |
|        | Max     | 473.5     | 181.6     | 75.7      |
| Nov-20 | Average | 452.1     | 69.7      | 55.7      |
|        | Max     | 501.2     | 87.6      | 76.1      |
| Dec-20 | Average | 416.1     | 81.9      | 37.2      |
|        | Max     | 463.9     | 100.6     | 38.7      |
| Jan-21 | Average | 398.1     | 64.5      | 43.5      |
|        | Max     | 494.7     | 127.4     | 59.6      |
| Feb-21 | Average | 411.8     | 95.0      | 66.6      |
|        | Max     | 483.9     | 136.4     | 74.4      |
| Mar-21 | Average | 450.0     | 130.8     | 48.9      |
|        | Max     | 487.1     | 162.4     | 75.6      |

**Unit # 8 - Continuous Emission Monitoring System-CEMS DATA**

| Month  |         | SOX mg/m3 | NOX mg/m3 | SPM mg/m3 |
|--------|---------|-----------|-----------|-----------|
| Oct-20 | Average | 415.5     | 82.8      | 64.0      |
|        | Max     | 494.0     | 114.9     | 69.9      |
| Nov-20 | Average | 474.6     | 65.4      | 57.4      |
|        | Max     | 566.7     | 79.4      | 81.0      |
| Dec-20 | Average | 402.7     | 84.1      | 50.5      |
|        | Max     | 511.4     | 126.8     | 53.3      |
| Jan-21 | Average | 436.0     | 98.7      | 53.2      |
|        | Max     | 476.9     | 113.8     | 73.4      |
| Feb-21 | Average | 445.3     | 101.0     | 49.6      |
|        | Max     | 484.9     | 171.8     | 58.4      |
| Mar-21 | Average | 471.4     | 148.6     | 64.9      |
|        | Max     | 498.4     | 182.7     | 93.0      |

**ANNEXURE-III**
**Ambient Air Quality Data- OCT – 2020 to MAR – 2021**
**Month – Oct' 2020**

| SN | Location ( Avg.24 Hrs.) | PM-10<br>( $\mu\text{g}/\text{m}^3$ ) | SO2<br>( $\mu\text{g}/\text{m}^3$ ) | NO2<br>( $\mu\text{g}/\text{m}^3$ ) | CO<br>( $\text{mg}/\text{m}^3$ ) | PM-2.5<br>( $\mu\text{g}/\text{m}^3$ ) |
|----|-------------------------|---------------------------------------|-------------------------------------|-------------------------------------|----------------------------------|--|
| 1  | Reservoir Area          | 31.6                                  | 14.2                                | 27.4                                | 1.0                              | 9.2                                    |
| 2  | Main Gate               | 42.2                                  | 13.4                                | 23.6                                | 0.40                             | 32.3                                   |
| 3  | Ash pond                | 21.2                                  | 14.8                                | 21.4                                | 2.01                             | 12.0                                   |
| 4  | Bhardesh Village        | 71.0                                  | 16.6                                | 26.4                                | 0.14                             | 33.7                                   |
| 5  | Ishrpura Village        | 67.8                                  | 14.4                                | 26.7                                | 0.31                             | 33.3                                   |
| 6  | Chuli Village           | 68.4                                  | 13.5                                | 25.9                                | 0.24                             | 33.8                                   |

**Month – Nov' 2020**

| SN | Location ( Avg.24 Hrs.) | PM-10<br>( $\mu\text{g}/\text{m}^3$ ) | SO2<br>( $\mu\text{g}/\text{m}^3$ ) | NO2<br>( $\mu\text{g}/\text{m}^3$ ) | CO<br>( $\text{mg}/\text{m}^3$ ) | PM-2.5<br>( $\mu\text{g}/\text{m}^3$ ) |
|----|-------------------------|---------------------------------------|-------------------------------------|-------------------------------------|----------------------------------|--|
| 1  | Reservoir Area          | 33.2                                  | 15.4                                | 26.6                                | 1                                | 10.2                                   |
| 2  | Main Gate               | 49.2                                  | 11.2                                | 23.4                                | 1.2                              | 28.1                                   |
| 3  | Ash pond                | 19.4                                  | 16.5                                | 21.5                                | 1.5                              | 12.1                                   |
| 4  | Bhardesh Village        | 70.1                                  | 19.8                                | 27.4                                | 0.2                              | 35.4                                   |
| 5  | Ishrpura Village        | 69.9                                  | 16.4                                | 27.8                                | 0.3                              | 36.9                                   |
| 6  | Chuli Village           | 70.8                                  | 14.7                                | 30.8                                | 0.2                              | 31.0                                   |

**Month – Dec' 2020**

| SN | Location ( Avg.24 Hrs.) | PM-10<br>( $\mu\text{g}/\text{m}^3$ ) | SO2<br>( $\mu\text{g}/\text{m}^3$ ) | NO2<br>( $\mu\text{g}/\text{m}^3$ ) | CO<br>( $\text{mg}/\text{m}^3$ ) | PM-2.5<br>( $\mu\text{g}/\text{m}^3$ ) |
|----|-------------------------|---------------------------------------|-------------------------------------|-------------------------------------|----------------------------------|--|
| 1  | Reservoir Area          | 32.8                                  | 16.9                                | 23.7                                | 0.92                             | 9.9                                    |
| 2  | Main Gate               | 49.9                                  | 15.8                                | 23.8                                | 0.82                             | 23.0                                   |
| 3  | Ash pond                | 21.0                                  | 16.4                                | 22.0                                | 1.02                             | 11.7                                   |
| 4  | Bhardesh Village        | 74.2                                  | 16.5                                | 28.3                                | 0.22                             | 35.4                                   |
| 5  | Ishrpura Village        | 64.9                                  | 14.5                                | 29.3                                | 0.33                             | 46.0                                   |
| 6  | Chuli Village           | 65.9                                  | 14.2                                | 27.2                                | 0.22                             | 32.3                                   |

### ANNEXURE-III

#### Month – Jan' 2021

| SN | Location ( Avg.24 Hrs.) | PM-10<br>( $\mu\text{g}/\text{m}^3$ ) | SO <sub>2</sub><br>( $\mu\text{g}/\text{m}^3$ ) | NO <sub>2</sub><br>( $\mu\text{g}/\text{m}^3$ ) | CO<br>( $\text{mg}/\text{m}^3$ ) | PM-2.5<br>( $\mu\text{g}/\text{m}^3$ ) |
|----|-------------------------|---------------------------------------|---|---|----------------------------------|--|
| 1  | Reservoir Area          | 35.3                                  | 10.9  | 23.6  | 0.42                             | 11.6                                   |
| 2  | Main Gate               | 47.6                                  | 8.69  | 23.7  | 0.79                             | 27.8                                   |
| 3  | Ash pond                | 19.3                                  | 15.7  | 21.9  | 0.76                             | 13.6                                   |
| 4  | Bhardesh Village        | 75.6                                  | 17.0  | 27.6  | 0.23                             | 36.2                                   |
| 5  | Ishrpura Village        | 75.4                                  | 10.8  | 27.3  | 0.25                             | 56.2                                   |
| 6  | Chuli Village           | 64.3                                  | 14.5  | 29.5  | 0.21                             | 28.6                                   |

#### Month – Feb' 2021

| SN | Location ( Avg.24 Hrs.) | PM-10<br>( $\mu\text{g}/\text{m}^3$ ) | SO <sub>2</sub><br>( $\mu\text{g}/\text{m}^3$ ) | NO <sub>2</sub><br>( $\mu\text{g}/\text{m}^3$ ) | CO<br>( $\text{mg}/\text{m}^3$ ) | PM-2.5<br>( $\mu\text{g}/\text{m}^3$ ) |
|----|-------------------------|---------------------------------------|---|---|----------------------------------|--|
| 1  | Reservoir Area          | 31.8                                  | 16.58   | 22.9  | 0.62                             | 10.1                                   |
| 2  | Main Gate               | 38.3                                  | 12.0  | 23.7  | 0.55                             | 23.6                                   |
| 3  | Ash pond                | 20.8                                  | 15.4  | 21.9  | 0.60                             | 14.4                                   |
| 4  | Bhardesh Village        | 71.1                                  | 14.0  | 25.2  | 0.26                             | 34.9                                   |
| 5  | Ishrpura Village        | 73.3                                  | 14.0  | 26.1  | 0.39                             | 52.2                                   |
| 6  | Chuli Village           | 57.9                                  | 15.7  | 25.9  | 0.24                             | 25.2                                   |

#### Month – March' 2021

| SN | Location ( Avg.24 Hrs.) | PM-10<br>( $\mu\text{g}/\text{m}^3$ ) | SO <sub>2</sub><br>( $\mu\text{g}/\text{m}^3$ ) | NO <sub>2</sub><br>( $\mu\text{g}/\text{m}^3$ ) | CO<br>( $\text{mg}/\text{m}^3$ ) | PM-2.5<br>( $\mu\text{g}/\text{m}^3$ ) |
|----|-------------------------|---------------------------------------|---|---|----------------------------------|--|
| 1  | Reservoir Area          | 40.8                                  | 9.32  | 23.7  | 0.47                             | 27.1                                   |
| 2  | Main Gate               | 38.2                                  | 17.6  | 21.1  | 0.46                             | 9.95                                   |
| 3  | Ash pond                | 25.4                                  | 16.8  | 21.7  | 0.25                             | 24.9                                   |
| 4  | Bhardesh Village        | 66.8                                  | 12.2  | 24.9  | 0.26                             | 35.8                                   |
| 5  | Ishrpura Village        | 75.3                                  | 13.1  | 22.7  | 0.25                             | 45.7                                   |
| 6  | Chuli Village           | 60.1                                  | 15.7  | 25.9  | 0.24                             | 32.1                                   |



**ANNEXURE-IV**
**Effluent Water Quality OCT– 2020 to MAR– 2021**

| SN  | Parameters   | UoM  | CPCB Limits | Results  |          |          |          |          |          |
|-----|--|------|-------------|----------|----------|----------|----------|----------|----------|
|     |  |      |             | Oct      | Nov      | Dec      | Jan      | Feb      | Mar      |
| 1.  | pH   |      | 6.5-8.5     | 7.23     | 7.25     | 6.28     | 7.30     | 7.35     | 7.45     |
| 2.  | Biochemical Oxygen Demand (BOD) @ 27Deg C for 3 days | mg/L | < 30.0      | 20.2     | 20.42    | 22.65    | 22.60    | 21.07    | 21.05    |
| 3.  | Chemical Oxygen Demand (COD)                         | mg/L | < 250       | 88.25    | 86.25    | 101.75   | 112.75   | 117.50   | 134.7    |
| 4.  | Total Kjeldhal Nitrogen as NH <sub>3</sub>           | mg/L | < 100       | 14.15    | 13.83    | 13.09    | 14.13    | 14.55    | 14.95    |
| 5.  | Free Available Chlorine                              | mg/L | < 0.5       | BDL<0.18 | BDL<0.18 | BDL<0.18 | BDL<0.18 | BDL<0.18 | BDL<0.18 |
| 6.  | Oil & Grease   | mg/L | < 20        | 3.18     | 3.40     | 4.18     | 4.97     | 4.95     | 4.10     |
| 7.  | Copper as Cu   | mg/L | < 1         | 0.030    | 0.036    | 0.040    | 0.048    | 0.053    | 0.014    |
| 8.  | Zinc as Zn   | mg/L | < 1         | 0.39     | 0.41     | 0.42     | 0.52     | 0.56     | 0.48     |
| 9.  | Iron as Fe   | mg/L | < 1         | 0.59     | 0.63     | 0.55     | 0.62     | 0.72     | 0.62     |
| 10. | Total Suspended Solid                                | mg/L | < 100       | 54.25    | 58.00    | 66.75    | 74.75    | 81.75    | 81.75    |
| 11. | Ammonical Nitrogen as N                              | mg/L | < 50        | 5.27     | 5.00     | 5.22     | 5.68     | 5.31     | 5.51     |
| 12. | Nitrate Nitrogen                                     | mg/L | < 10        | 2.68     | 2.56     | 2.74     | 2.95     | 3.62     | 3.71     |
| 13. | Total Chromium as Cr                                 | mg/L | < 1         | BDL<0.01 | BDL<0.01 | BDL<0.01 | BDL<0.01 | BDL<0.01 | BDL<0.01 |

# ANNEXURE-V



## ARIHANT ANALYTICAL LABORATORY PVT. LTD.

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 272, Phase-IV, Sec-57, HSIDC, Kundli, Sonapat-131028 (Haryana)  
 Ph. : 7082301442, 9250014551 Email : aalkundli@gmail.com  
 Website : www.aalkundli.com

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TEST CERTIFICATE

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|                            |   |                                  |                     |
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| <b>Sample Description:</b> | One Sample described as STP Outlet Water, was received.   | <b>Date of Receiving:</b>        | 14/10/2020          |
| <b>Sample ID:</b>          | JSW Plant   | <b>Date of Starting:</b>         | 14/10/2020          |
|                            |   | <b>Date of Completion:</b>       | 19/10/2020          |
|                            |   | <b>Date of Reporting:</b>        | 19/10/2020          |
|                            |   | <b>Sample Quantity:</b>          | 1 Litre             |
|                            |   | <b>Sample Packing Condition:</b> | Plastic Bottle      |
|                            |   | <b>Sample Submitted By:</b>      | Customer            |

---

TEST RESULT

| S. No. | Test parameters                                  | Unit      | Results | Requirement as per CPCB Guideline |                        | Testing Method     |
|--------|--|-----------|---------|-----------------------------------|------------------------|--------------------|
|        |  |           |         | Into Inland Surface Water         | On land for Irrigation |                    |
| 1      | pH Value   | -         | 7.57    | 5.5 - 9.0                         | 5.5 - 9.0              | IS 3025(P-11)-1983 |
| 2      | Total Suspended Solids                           | mg/l      | 17.6    | 100 Max.                          | 200 Max.               | IS 3025(P-17)-1984 |
| 3      | Oil & Grease                                     | mg/l      | <2.0    | 10 Max.                           | 10 Max.                | IS 3025(P-39)-1991 |
| 4      | Biochemical Oxygen Demand (BOD - 3 days at 27°C) | mg/l      | 16.5    | 30 Max.                           | 100 Max.               | IS 3025(P-44)-1993 |
| 5      | Chemical Oxygen Demand (COD)                     | mg/l      | 83.6    | 250 Max.                          | -                      | IS 3025(P-58)-2006 |
| 6      | Total Nitrogen (as N)                            | mg/l      | 11.3    | -                                 | -                      | IS 3025(P-34)-1988 |
| 7      | Ammonical Nitrogen (as N)                        | mg/l      | 3.4     | 50 Max.                           | -                      | IS 3025(P-34)-1988 |
| 8      | Faecal Coliform                                  | MPN/100ml | 27      | <100                              |                        | IS 1622-1981       |

\*\*End of Report\*\*

  
**Vinay Dixit**  
 (Microbiologist)

  
**Ashutosh Srivastava**  
 (SO ANALYST)  
 Authorised Signatory

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# ANNEXURE-V



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| Sample Description: | One Sample described as STP Outlet Water,<br>was received.  | Date of Receiving:        | 17/11/2020          |
| Sample ID:          | JSW Plant   | Date of Starting:         | 17/11/2020          |
|                     |   | Date of Completion:       | 23/11/2020          |
|                     |   | Date of Reporting:        | 23/11/2020          |
|                     |   | Sample Quantity:          | 1 Litre             |
|                     |   | Sample Packing Condition: | Plastic Bottle      |
|                     |   | Sample Submitted By:      | Customer            |

### TEST RESULT

| S. No. | Test parameters                                  | Unit      | Results | Requirement as per CPCB Guideline |                        | Testing Method     |
|--------|--|-----------|---------|-----------------------------------|------------------------|--------------------|
|        |  |           |         | Into Inland Surface Water         | On land for Irrigation |                    |
| 1      | pH Value   |           | 7.48    | 5.5 - 9.0                         | 5.5 - 9.0              | IS 3025(P-11)-1983 |
| 2      | Total Suspended Solids                           | mg/l      | 19.3    | 100 Max.                          | 200 Max.               | IS 3025(P-17)-1984 |
| 3      | Oil & Grease                                     | mg/l      | <2.0    | 10 Max.                           | 10 Max.                | IS 3025(P-39)-1991 |
| 4      | Biochemical Oxygen Demand (BOD - 3 days at 27°C) | mg/l      | 18.0    | 30 Max.                           | 100 Max.               | IS 3025(P-44)-1993 |
| 5      | Chemical Oxygen Demand (COD)                     | mg/l      | 96.5    | 250 Max.                          | -                      | IS 3025(P-58)-2006 |
| 6      | Total Nitrogen (as N)                            | mg/l      | 12.4    | -                                 | -                      | IS 3025(P-34)-1988 |
| 7      | Ammonical Nitrogen (as N)                        | mg/l      | 3.6     | 50 Max.                           | -                      | IS 3025(P-34)-1988 |
| 8      | Faecal Coliform                                  | MPN/100ml | 33      | <100                              | <100                   | IS 1622-1981       |

\*\*End of Report\*\*

Vinay Dixit  
(Microbiologist)

Ashutosh Srivastava  
(SR. ANALYST)  
Authorised Signatory

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# ANNEXURE-V



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| <b>Sample Description:</b> | One Sample described as STP Outlet Water,<br>was received.   | <b>Date of Receiving:</b>        | 16/12/2020          |
| <b>Sample ID:</b>          | JSW Plant  | <b>Date of Starting:</b>         | 16/12/2020          |
|                            |  | <b>Date of Completion:</b>       | 21/12/2020          |
|                            |  | <b>Date of Reporting:</b>        | 21/12/2020          |
|                            |  | <b>Sample Quantity:</b>          | 1 Litre             |
|                            |  | <b>Sample Packing Condition:</b> | Plastic Bottle      |
|                            |  | <b>Sample Submitted By:</b>      | Customer            |

### TEST RESULT

| S. No. | Test parameters                                  | Unit      | Results | Requirement as per CPCB Guideline |                        | Testing Method     |
|--------|--|-----------|---------|-----------------------------------|------------------------|--------------------|
|        |  |           |         | Into Inland Surface Water         | On land for Irrigation |                    |
| 1      | pH Value   |           | 7.82    | 5.5 - 9.0                         | 5.5 - 9.0              | IS 3025(P-11)-1983 |
| 2      | Total Suspended Solids                           | mg/l      | 24.5    | 100 Max.                          | 200 Max.               | IS 3025(P-17)-1984 |
| 3      | Oil & Grease                                     | mg/l      | <2.0    | 10 Max.                           | 10 Max.                | IS 3025(P-39)-1991 |
| 4      | Biochemical Oxygen Demand (BOD - 3 days at 27°C) | mg/l      | 16.0    | 30 Max.                           | 100 Max.               | IS 3025(P-44)-1993 |
| 5      | Chemical Oxygen Demand (COD)                     | mg/l      | 77.0    | 250 Max.                          | -                      | IS 3025(P-58)-2006 |
| 6      | Total Nitrogen (as N)                            | mg/l      | 10.6    | -                                 | -                      | IS 3025(P-34)-1988 |
| 7      | Ammonical Nitrogen (as N)                        | mg/l      | 2.5     | 50 Max.                           | -                      | IS 3025(P-34)-1988 |
| 8      | Faecal Coliform                                  | MPN/100ml | 40      | <100                              | -                      | IS 1622-1981       |

**\*\*End of Report\*\***

Vinay Dixit  
(Microbiologist)

Ashutosh Srivastava  
(SR. ANALYST)  
Authorised Signatory

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# ANNEXURE-V



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| <b>Sample Description:</b> | One Sample described as STP Outlet Water,<br>was received.  | <b>Date of Receiving:</b>        | 18/01/2021          |
| <b>Sample ID:</b>          | JSW Plant   | <b>Date of Starting:</b>         | 18/01/2021          |
|                            |   | <b>Date of Completion:</b>       | 23/01/2021          |
|                            |   | <b>Date of Reporting:</b>        | 23/01/2021          |
|                            |   | <b>Sample Quantity:</b>          | 1 Litre             |
|                            |   | <b>Sample Packing Condition:</b> | Plastic Bottle      |
|                            |   | <b>Sample Submitted By:</b>      | Customer            |


**TEST RESULT**

| S. No. | Test parameters                                  | Unit      | Results | Requirement as per CPCB Guideline |                        | Testing Method     |
|--------|--|-----------|---------|-----------------------------------|------------------------|--------------------|
|        |  |           |         | Into Inland Surface Water         | On land for Irrigation |                    |
| 1      | pH Value   | -         | 7.61    | 5.5 - 9.0                         | 5.5 - 9.0              | IS 3025(P-11)-1983 |
| 2      | Total Suspended Solids                           | mg/l      | 21.3    | 100 Max.                          | 200 Max.               | IS 3025(P-17)-1984 |
| 3      | Oil & Grease                                     | mg/l      | <2.0    | 10 Max.                           | 10 Max.                | IS 3025(P-39)-1991 |
| 4      | Biochemical Oxygen Demand (BOD - 3 days at 27°C) | mg/l      | 20.0    | 30 Max.                           | 100 Max.               | IS 3025(P-44)-1993 |
| 5      | Chemical Oxygen Demand (COD)                     | mg/l      | 98.3    | 250 Max.                          | -                      | IS 3025(P-58)-2006 |
| 6      | Total Nitrogen (as N)                            | mg/l      | 11.3    | -                                 | -                      | IS 3025(P-34)-1988 |
| 7      | Ammonical Nitrogen (as N)                        | mg/l      | 3.3     | 50 Max.                           | -                      | IS 3025(P-34)-1988 |
| 8      | Faecal Coliform                                  | MPN/100ml | 50      | <100                              | -                      | IS 1622-1981       |

**\*\*End of Report\*\***



**Vinay Dixit**  
(Microbiologist)



**Ashutosh Srivastava**  
(SR. ANALYST)  
Authorised Signatory

Note: 1. The Result indicated above refer to the tested sample and listed test parameters only, endorsement of products is neither inferred nor implied.  
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# ANNEXURE-V



# ANNEXURE-V



## ARIHANT ANALYTICAL LABORATORY PVT. LTD.

AN ISO 9001:2015, ISO 14001:2004, OHSAS 18001:2007 CERTIFIED LABORATORY

272, Phase-IV, Sec-57, HSIIDC, Kundli, Sonapat-131028 (Haryana)

Ph. : 7082301442, 9250014551 Email : aalkundli@gmail.com

Website : www.aalkundli.com

### TEST CERTIFICATE

Page 1 of 1

|                            |  |                                  |                            |
|----------------------------|--|----------------------------------|----------------------------|
| <b>Issued To:</b>          | <b>M/s Environze Global Limited</b><br>110, Laxmi Deep Tower,<br>District Centre Laxmi Nagar,<br>Delhi – 110 092 | <b>Report No.</b>                | <b>AAL WQT-20210212008</b> |
| <b>Sample Description:</b> | One Sample described as STP Outlet Water,<br>was received,   | <b>Date of Receiving:</b>        | 12/02/2021                 |
| <b>Sample ID:</b>          | <b>JSW Plant</b>   | <b>Date of Starting:</b>         | 12/02/2021                 |
|                            |  | <b>Date of Completion:</b>       | 17/02/2021                 |
|                            |  | <b>Date of Reporting:</b>        | 17/02/2021                 |
|                            |  | <b>Sample Quantity:</b>          | 1 Litre                    |
|                            |  | <b>Sample Packing Condition:</b> | Plastic Bottle             |
|                            |  | <b>Sample Submitted By:</b>      | Customer                   |

### TEST RESULT

| S. No. | Test parameters                                  | Unit      | Results | Requirement as per CPCB Guideline |                        | Testing Method     |
|--------|--|-----------|---------|-----------------------------------|------------------------|--------------------|
|        |  |           |         | Into Inland Surface Water         | On land for Irrigation |                    |
| 1      | pH Value   |           | 7.48    | 5.5 - 9.0                         | 5.5 - 9.0              | IS 3025(P-11)-1983 |
| 2      | Total Suspended Solids                           | mg/l      | 27.5    | 100 Max.                          | 200 Max.               | IS 3025(P-17)-1984 |
| 3      | Oil & Grease                                     | mg/l      | <2.0    | 10 Max.                           | 10 Max.                | IS 3025(P-39)-1991 |
| 4      | Biochemical Oxygen Demand (BOD - 3 days at 27°C) | mg/l      | 24.0    | 30 Max.                           | 100 Max.               | IS 3025(P-44)-1993 |
| 5      | Chemical Oxygen Demand (COD)                     | mg/l      | 118.0   | 250 Max.                          | -                      | IS 3025(P-58)-2006 |
| 6      | Total Nitrogen (as N)                            | mg/l      | 15.4    | -                                 | -                      | IS 3025(P-34)-1988 |
| 7      | Ammonical Nitrogen (as N)                        | mg/l      | 6.20    | 50 Max.                           | -                      | IS 3025(P-34)-1988 |
| 8      | Faecal Coliform                                  | MPN/100ml | 60      | <100                              |                        | IS 1622-1981       |

**\*\*End of Report\*\***

**Vinay Dixit**  
(Microbiologist)

**Ashutosh Srivastava**  
(SR. ANALYST)  
Authorised Signatory

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# ANNEXURE-V



## ARIHANT ANALYTICAL LABORATORY PVT. LTD.

AN ISO 9001:2015, ISO 14001:2004, OHSAS 18001:2007 CERTIFIED LABORATORY

272, Phase-IV, Sec-57, HSIIDC, Kundli, Sonapat-131028 (Haryana)

Ph. : 7082301442, 9250014551 Email : aalkundli@gmail.com

Website : www.aalkundli.com

### TEST CERTIFICATE

Page 1 of 1

|                            |  |                                  |                     |
|----------------------------|--|----------------------------------|---------------------|
| <b>Issued To:</b>          | <b>M/s Environze Global Limited</b><br>110, Laxmi Deep Tower,<br>District Centre Laxmi Nagar,<br>Delhi - 110 092 | <b>Report No.</b>                | AAL WQT-20210315001 |
| <b>Sample Description:</b> | One Sample described as STP Outlet Water,<br>was received.   | <b>Date of Receiving:</b>        | 15/03/2021          |
| <b>Sample ID:</b>          | JSW Plant  | <b>Date of Starting:</b>         | 15/03/2021          |
|                            |  | <b>Date of Completion:</b>       | 20/03/2021          |
|                            |  | <b>Date of Reporting:</b>        | 20/03/2021          |
|                            |  | <b>Sample Quantity:</b>          | 1 Litre             |
|                            |  | <b>Sample Packing Condition:</b> | Plastic Bottle      |
|                            |  | <b>Sample Submitted By:</b>      | Customer            |

### TEST RESULT

| S. No. | Test parameters                                  | Unit      | Results | Requirement as per CPCB Guideline |                        | Testing Method     |
|--------|--|-----------|---------|-----------------------------------|------------------------|--------------------|
|        |  |           |         | Into Inland Surface Water         | On land for Irrigation |                    |
| 1      | pH Value   | -         | 7.36    | 5.5 - 9.0                         | 5.5 - 9.0              | IS 3025(P-11)-1983 |
| 2      | Total Suspended Solids                           | mg/l      | 23.4    | 100 Max.                          | 200 Max.               | IS 3025(P-17)-1984 |
| 3      | Oil & Grease                                     | mg/l      | <2.0    | 10 Max.                           | 10 Max.                | IS 3025(P-39)-1991 |
| 4      | Biochemical Oxygen Demand (BOD - 3 days at 27°C) | mg/l      | 18.6    | 30 Max.                           | 100 Max.               | IS 3025(P-44)-1993 |
| 5      | Chemical Oxygen Demand (COD)                     | mg/l      | 104.0   | 250 Max.                          | -                      | IS 3025(P-58)-2006 |
| 6      | Total Nitrogen (as N)                            | mg/l      | 12.6    | -                                 | -                      | IS 3025(P-34)-1988 |
| 7      | Ammonical Nitrogen (as N)                        | mg/l      | 3.2     | 50 Max.                           | -                      | IS 3025(P-34)-1988 |
| 8      | Faecal Coliform                                  | MPN/100ml | 40      | <100                              | -                      | IS 1622-1981       |

**\*\*End of Report\*\***

**Vinay Dixit**  
(Microbiologist)

**Ashutosh Srivastava**  
(SR. ANALYST)  
Authorised Signatory

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O/C



**JSW Energy (Barmer) Limited**  
Village & Post : Bhadresh, Post Box No. 30,  
Distt : Barmer - 344001 (Rajasthan)  
CIN : U31102MH1996PLC185098  
Phone : +91 2982 229100  
Fax : +91 2982 229222  
Website : [www.jsw.in](http://www.jsw.in)

Ref: JSWE(B)/ENV/20-21/023

Date: 11.12.2020

To,  
**The Member Secretary**  
**Rajasthan State Pollution Control Board**  
4-Institutional Area, Jhalana Doongari,  
Jaipur - 302004

**Sub: Compliance Report – Consent to Operate Environmental Clearance for 1080 MW Lignite based Power Plant at Village-Bhadresh, District Barmer.**

**Ref: Consent to Operate**

1. Compliance to CTO for Unit 1 & 2, File No. F(HDF)/Barmer(Barmar)/9(1)/2016-2017/28-30 Order No. 2020-2021/CPM/5618, Dt: 27/04/2020.
2. Compliance to CTO for Unit 3 & 4, File No. F(HDF)/Barmer(Barmar)/9(1)/2016-2017/31-33 Order No: 2020-2021/CPM/5619, Dated: 27/04/2020.
3. Compliance to CTO for Unit 5 & 6, File No. F(HDF)/Barmer(Barmar)/12(1)/2017-2018/1505-1507: Order No. 2017-2018/HDF/2564, Dt: 30/05/2017.
4. Compliance to CTO for Unit 7 & 8, File No. F(HDF)/Barmer(Barmar)/12(1)/2017-2018/1502-1504: Order No. 2017-2018/HDF/2563, Dt: 30/05/2017.

Dear Sir,

With reference to Consent To Operate issued for Unit # 1-2, 3-4, 5-6 and 7-8 for operating 1080 MW (8 x 135 MW) Lignite Based Thermal Plant of M/s JSW ENERGY (BARMER) Ltd, Dist.- Barmer, Rajasthan, we herewith submit half-yearly compliance report, for the period pertaining to **APRIL- 2020 to SEP - 2020**, for the conditions stipulated in the Environmental clearance issued for this Power Project. Analysis Data has uploaded on JSWEBL website - <http://www.jsw.in/energy/about-barmer-plant>.

We have taken up the Operation activity at the Power Plant as per the conditions stipulated in this Consent to Operate.

Thanking you.

For JSW ENERGY (BARMER) Ltd.

Vinod Jindal  
AGM (Operation, Environment & Chemistry)

**Enclosure:**

- |                              |                     |
|------------------------------|---------------------|
| 1. Compliance Report         |                     |
| 2. Stack monitoring Data     | <u>Annexure-I</u>   |
| 3. CEMS Monitoring Data      | <u>Annexure-II</u>  |
| 4. AAQ Monitoring Data       | <u>Annexure-III</u> |
| 5. Effluent Water Data       | <u>Annexure-IV</u>  |
| 6. STP Treated Water Quality | <u>Annexure-V</u>   |

C.C. The Regional Officer – RSPCB, Balotra.



Part of O.P.Jindal Group

Regd. Office : Raj WestPower Ltd., JSW Center, BKC Complex, Bandra (E), Mumbai - 400051  
Jaipur Office: Office No. 2 & 3, 7<sup>th</sup> Floor, Man Upasana Plaza, C-44, Sardar Patel Marg, C-Scheme, Jaipur - 302 001 Ph : 0141 2369772 Fax 0141 2369774



Part of O.P.Jindal Group

Regd. Office : JSW Energy (barmer) Ltd., JSW Center, BKC Complex, Bandra (E), Mumbai - 400051

Jaipur Office: Office No. 2 & 3, 7<sup>th</sup> Floor, Man Upasana Plaza, C-44, Sardar Patel Marg, C-Scheme, Jaipur - 302 001 Ph : 0141 2369772 Fax 0141 2369774