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

Ref: JSWE(B)L/ENV/20-21/015 Date: 25.06.2020

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(Barmer)/9(1)/2016-2017/28-30 Order No. 2020-2021/CPM/5618, Dt: 27/04/2020.**
2. **C**ompliance 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 **OCTOBER – 2019 to MARCH – 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
3. AAQ Monitoring Data
4. Effluent Water Data
5. STP Treated Water Quality

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

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 **01/01/2019 to 31/12/2023**	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. As per this Consent, **Unit 1 & 2** 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. a. Domestic 75 KLD b. Industrial 9800 KLD 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. 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: SO2 600 mg/Nm³ Particulate Matter 50 mg/Nm³ NOx 300 mg/Nm³ Hg compounds and its 0.03 mg/Nm³ DG Set (2 x 1000KVA) Acoustic Enclosure NOx NMHC PM CO	Boiler System is designed with Circulating Fluidised bed Technology – we are adding Lime along with Fuel firing. ESP is designed to comply with Stack Emission standard as stipulated. DG Sets are procured of designed to comply with Environmental Emission standard as stipulated

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. 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) dated20/07/2007 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),SO2,NOx,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, SO2, NOx to be within prescribed levels.

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 shell be complied.
19	That no additional source of air emission shall be installed without prior consent from the State Board.	Noted shell 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

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. Flow meters provided at Outlet of STP and ETP. 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. 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

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 **01/12/2018 to 30/11/2023**	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. As per this Consent, **Unit 3 & 4** 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. a. Domestic 75 KLD b. Industrial 9800 KLD 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. 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: SO2 600 mg/Nm³ Particulate Matter 50 mg/Nm³ NOx 300 mg/Nm³ Hg compounds and its 0.03 mg/Nm³ DG Set (2 x 1000KVA) Acoustic Enclosure NOx NMHC PM CO	Boiler System is designed with Circulating Fluidised bed Technology – we are adding Lime along with Fuel firing. ESP is designed to comply with Stack Emission standard as stipulated. DG Sets are procured of designed to comply with Environmental Emission standard as stipulated

6	That the Stage II (Unit- III & IV) plant will comply with the standards as prescribed vide MOEF notification no GSR 826(E) dated 16th 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. 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) dated20/07/2007 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, 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.

15	That the industry shall maintain online continuous monitoring system at stack attached to boiler to monitor the emission level of particulate matter(PM),SO2,NOx,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, SO2, NOx 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.

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. Flow meters provided at Outlet of STP and ETP. 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. 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

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 **01/11/2016 to 31/10/2021**	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. 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. a. Domestic 75 KLD b. Industrial 9800 KLD 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. 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: Boiler V: ESP : 100 mg/Nm^3 Boiler VI: ESP : 100 mg/Nm^3 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 16th 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 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-IAII(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/ 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 16th 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 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 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.
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.

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 date14th 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 **01/11/2016 to 31/10/2021**	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. 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. a. Domestic 75 KLD b. Industrial 9800 KLD 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. 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: Boiler VII: ESP: 100 mg/Nm^3 Boiler VIII: ESP : 100 mg/Nm^3	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 16th 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 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-IAII(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 16th 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 date14th 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/Nm3. The studies shall also suggest the road map to meet 100 mg/Nm3. The studies shall also suggest the road map to meet 100 mg/Nm3 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/Nm3. MOEF has also stipulated in EC conditions.
3	New / expansion power projects to be accorded environmental clearance on or after1.4.1.2003 shall meet the limit of 100 mg/Nm3 for particulate matter.	Complied
4	Development of SO2 & NOx 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 SO2 & NOx w.e.f. 1.1.2005.	
	- Existing power plants shall meet the limit of SO2 & NOX 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 ES, CTO and CFE Conditions being complied. Reference to Mercury and Heavy metal content Ash and coal analysis report is enclosed as Annexure – IX. 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: Power plants will sign fuel supply agreement (FSA) Options/mechanism for setting up of coal washeries as a long term measure * 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	Not Applicable – Project is pit head project and designed on basis of Lignite coal from Adjacent Kapurdi and Jalipa Lignite.
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 percept 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.

STACK EMISSION MONITORING RESULTS OCT – 2019 to MAR – 2020

Month: Oct' 2019

SN	Parameters	UOM	Unit-I	Unit -II	Unit -III	Unit -IV	Unit -V	Unit - VI	Unit-VII	Unit-VIII
1	Average Velocity	m/Sec	14.6	16.9	14.5	16.4	17.7	17.4	18.6	16.7
2	Flow	Nm^3/Sec	122.7	139.3	123.7	134.1	147.3	141.6	149.9	139
3	Stack Exit Temp.	^0C	125	133	119	136	129	138	142	129
4	Particulate Matter	mg/Nm3	63	50	69	69	45	42.8	57.2	60.2
5	Sulphur Dioxide (SO_2) at 6% O2 Ref.	mg/Nm3	480.7	494.9	450.2	403.3	474.9	479	429.5	429
6	Oxides of Nitrogen (NOx) at 6% O2 Ref.	mg/Nm3	181.6	203	154.3	137.3	192.6	205.1	185.6	155.1

Month: Nov' 2019

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	15.4	18.3	17	16.6		15.7	16.4
2	Flow	Nm^3/Sec	135.4	126.6	145.8	132.6	133.8		129.7	134.5
3	Stack Exit Temp.	^0C	152	134	147	156	142		132	135
4	Particulate Matter	mg/Nm^3	59	59	68	52	64	S/D	53	49
5	Sulphur Dioxide (SO_2) at 6% O2 Ref.	mg/Nm^3	473	449	495	552	529		497	514
6	Oxides of Nitrogen (NOx) at 6% O2 Ref.	mg/Nm^3	194	158	203	188	184		153	181

Month: Dec' 2019

SN	Parameters	UOM	Unit-I	Unit - II	Unit - III	Unit - IV	Unit - V	Unit - VI	Unit-VII	Unit-VIII
1	Average Velocity	m/Sec	16.9	15.4	17.1	16.8	14.8	13.2	17.4	17.9
2	Flow	Nm^3/Sec	135.6	125	135.2	131	126.3	116.5	140.9	146.4
3	Stack Exit Temp.	^0C	144	139	150	156	119	106	140	136
4	Particulate Matter	mg/Nm^3	64	59	55	60	54	50	64	68
5	Sulphur Dioxide (SO_2) at 6% O2 Ref.	mg/Nm^3	478	497	467	459	496	423	438	358
6	Oxides of Nitrogen (NOx) at 6% O2 Ref.	mg/Nm^3	176	188	167	164	145	134	210	191

ANNEXURE-IV

Month: Jan' 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	16.7	17.4	15	17.6	15.7	16.8	17.4	18.4
2	Flow	Nm^3/Sec	132.4	135.4	126.4	138.2	129.7	135.8	141.6	147.3
3	Stack Exit Temp.	^0C	149	157	124	153	132	141	138	145
4	Particulate Matter	mg/Nm^3	56	64	52	70	48	65	59	53
5	Sulphur Dioxide (SO_2) at 6% O2 Ref.	mg/Nm^3	471	488	477	499	420	431	442	475
6	Oxides of Nitrogen (NOx) at 6% O2 Ref.	mg/Nm^3	218.3	197	152.9	227	190.8	165.8	158	177.7

Month: Feb' 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	16.2	17.4	17.4	17	18	16	15.7	17.9
2	Flow	Nm^3/Sec	128.4	137	140.9	140.4	141.7	134.2	128.7	148.2
3	Stack Exit Temp.	^0C	149	152	140	132	152	126	135	131
4	Particulate Matter	mg/Nm^3	56	62	55	51	48	58	65	68
5	Sulphur Dioxide (SO_2) at 6% O2 Ref.	mg/Nm^3	505	446	472	415	453	471	490	504
6	Oxides of Nitrogen (NOx) at 6% O2 Ref.	mg/Nm^3	192.1	204	181.6	216.3	175.7	225.9	192.7	188.2

Month: Mar' 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	17.4	18.2	16.9	19.3		18	19.2	
2	Flow	Nm^3/Sec	140.9	143.3	137.2	153.4		139.4	158.2	
3	Stack Exit Temp.	^0C	140	152	139	148		159	133	
4	Particulate Matter	mg/Nm^3	64	59	54	70	S/D	65	58	S/D
5	Sulphur Dioxide (SO_2) at 6% O2 Ref.	mg/Nm^3	427	340	456	465		294	482	
6	Oxides of Nitrogen (NOx) at 6% O2 Ref.	mg/Nm^3	183.1	159.9	218.7	246.1		153.6	175.2	

ANNEXURE-IV

Unit # 1 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
OCT– 19	**Average**	172	112	65
	Max	320	164	70
NOV- 19	**Average**	201	53	65
	Max	289	107	69
DEC – 19	**Average**	217	34	62
	Max	340	103	69
JAN-20	**Average**	252	54	61
	Max	435	90	66
Feb-20	**Average**	247	49	48
	Max	350	86	65
MAR-20	**Average**	57	195	61
	Max	156	291	76

Unit # 2 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
OCT– 19	**Average**	191	98	45
	Max	423	197	58
NOV- 19	**Average**	232	63	47
	Max	381	111	57
DEC – 19	**Average**	270	92	45
	Max	396	128	55
JAN-20	**Average**	213	47	38
	Max	347	79	43
Feb-20	**Average**	256	61	37
	Max	353	129	44
MAR-20	**Average**	252	65	34
	Max	389	155	40

ANNEXURE-IV

Unit # 3 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
OCT– 19	Average	255	105	62
	Max	391	164	71
NOV- 19	Average	244	53	67
	Max	364	107	69
DEC – 19	Average	327	83	63
	Max	387	128	74
JAN-20	Average	310	54	57
	Max	407	120	63
Feb-20	Average	340	48	57
	Max	409	67	71
MAR-20	Average	350	112	64
	Max	402	127	68

Unit # 4 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
OCT– 19	Average	141	40	32
	Max	342	134	63
NOV- 19	Average	214	50	51
	Max	332	95	77
DEC – 19	Average	241	47	65
	Max	428	145	86
JAN-20	Average	252	26	53
	Max	405	52	64
Feb-20	Average	326	78	49
	Max	416	134	59
MAR-20	Average	280	74	42
	Max	419	143	45

ANNEXURE-IV

Unit # 5 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
OCT– 19	Average	327	151	44
	Max	389	169	51
NOV- 19	Average	303	87	54
	Max	391	104	74
DEC – 19	Average	237	68	51
	Max	374	100	76
JAN-20	Average	305	59	61
	Max	397	72	72
Feb-20	Average	262	44	59
	Max	389	90	73
MAR-20	Average	S/D	S/D	S/D
	Max			

Unit # 6 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
OCT– 19	Average	319	158	35
	Max	422	248	41
NOV- 19	Average	79	38	18
	Max	320	124	37
DEC – 19	Average	305	112	47
	Max	435	150	55
JAN-20	Average	267	40	47
	Max	380	94	51
Feb-20	Average	259	62	44
	Max	424	130	54
MAR-20	Average	239	203	42
	Max	398	252	50

ANNEXURE-IV

Unit # 7 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
OCT– 19	Average	226	70	43
	Max	361	121	45
NOV- 19	Average	224	55	41
	Max	339	85	45
DEC – 19	Average	345	113	45
	Max	442	158	50
JAN-20	Average	271	59	43
	Max	406	103	52
Feb-20	Average	304	111	44
	Max	397	143	49
MAR-20	Average	281	90	38
	Max	414	187	48

Unit # 8 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
OCT– 19	Average	188	51	50
	Max	354	172	73
NOV- 19	Average	245	71	54
	Max	431	133	80
DEC – 19	Average	280	71	53
	Max	412	99	79
JAN-20	Average	223	66	50
	Max	402	98	85
Feb-20	Average	197	55	47
	Max	391	87	64
MAR-20	Average	317	119	48
	Max	444	166	51

ANNEXURE-VII

Ambient Air Quality Data- Oct – 2019 to Mar – 2020

Month – Oct' 2019

SN	Location (Avg.24 Hrs.)	PM-10 (µg/m³)	SO2 (µg/m³)	NO2 (µg/m³)	CO (mg/m³)	PM-2.5 (µg/m³)
1	Main Gate	38	S/D	13	0.21	27
2	Ash pond	32	42	22	0.71	9
3	Resevoir Area	22	20	19	1.78	13
4	Bhadresh Village	76	18	26	0.21	40
5	Isharpura Village	77	15	25	0.25	40
6	Chuli Village	77	16	25	0.25	39

Month – Nov' 2019

SN	Location (Avg.24 Hrs.)	PM-10 (µg/m³)	SO2 (µg/m3)	NO2 (µg/m3)	CO (mg/m3)	PM-2.5 (µg/m3)
1	Resevoir Area	40	S/D	13	0.40	27
2	Main Gate	32	27	21	0.79	9
3	Ash pond	24	24	20	1.78	15
4	Bhadresh Village	77	18	26	0.21	40
5	Isharpura Village	76	14	26	0.26	39
6	Chuli Village	78	16	25	0.26	39

Month – Dec' 2019

SN	Location (Avg.24 Hrs.)	PM-10 (µg/m³)	SO2 (µg/m3)	NO2 (µg/m3)	CO (mg/m3)	PM-2.5 (µg/m3)
1	Resevoir Area	41	S/D	13	0.56	26
2	Main Gate	31	21	21	0.85	9
3	Ash pond	24	20	19	1.36	21
4	Bhadresh Village	77	18	25	0.22	40
5	Isharpura Village	77	14	27	0.26	40
6	Chuli Village	78	16	24	0.25	39

ANNEXURE-VII

Month – Jan' 2020

SN	Location (Avg.24 Hrs.)	PM-10 (µg/m³)	SO2 (µg/m³)	NO2 (µg/m³)	CO (mg/m³)	PM-2.5 (µg/m³)
1	Resevoir Area	43	S/D	13	0.51	27
2	Main Gate	33	18	21	1.80	10
3	Ash pond	26	24	19	1.01	18
4	Bhadresh Village	75	17	24	0.21	39
5	Isharpura Village	75	14	26	0.25	39
6	Chuli Village	77	16	23	0.25	38

Month – Feb' 2020

SN	Location (Avg.24 Hrs.)	PM-10 (µg/m³)	SO2 (µg/m³)	NO2 (µg/m³)	CO (mg/m³)	PM-2.5 (µg/m³)
1	Resevoir Area	40	S/D	20	0.43	27
2	Main Gate	31	21	20	0.83	9
3	Ash pond	36	10	15	1.49	11
4	Bhadresh Village	74	17	24	0.21	39
5	Isharpura Village	74	13	26	0.27	38
6	Chuli Village	76	16	23	0.24	38

Month – Mar' 2020

SN	Location (Avg.24 Hrs.)	PM-10 (µg/m³)	SO2 (µg/m³)	NO2 (µg/m³)	CO (mg/m³)	PM-2.5 (µg/m³)
1	Resevoir Area	44	S/D	6	0.83	32
2	Main Gate	32	27	25	1.18	9
3	Ash pond	21	18	13	1.56	13
4	Bhadresh Village	74	17	24	0.21	38
5	Isharpura Village	73	13	26	0.26	38
6	Chuli Village	76	15	22	0.24	38

ANNEXURE-II

Effluent Water Quality OCT – 2019 to MAR – 2020

SN	Parameters	UoM	CPCB Limits	Results					
				Oct	Nov	Dec	Jan	Fab	Mar
1.	pH		**6.5-8.5**	7.23	7.23	7.18	7.08	7.18	7.00
2.	Biochemical Oxygen Demand (BOD) @ 27Deg C for 3 days	mg/L	**< 30.0**	22.25	22.5	25	21.75	23.25	22.25
3.	Chemical Oxygen Demand (COD)	mg/L	**< 250**	80.5	77.0	71.0	75.0	78.5	72.5
4.	Total Kjeldhal Nitrogen as NH3	mg/L	**< 100**	8.08	8.76	8.51	8.20	8.45	8.81
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**	2.7	2.7	2.35	2.25	3.45	2.4
7.	Copper as Cu	mg/L	**< 1**	0.0178	0.0153	0.0148	0.0235	0.0168	0.0183
8.	Zinc as Zn	mg/L	**< 1**	0.380	0.368	0.400	0.370	0.310	0.363
9.	Iron as Fe	mg/L	**< 1**	0.428	0.390	0.460	0.365	0.435	0.375
10.	Total Suspended Solid	mg/L	**< 100**	36.75	38.50	32.50	37.00	39.50	33.25
11.	Ammonical Nitrogen as N	mg/L	**< 50**	5.17	5.39	5.47	4.91	5.46	5.49
12.	Nitrate Nitrogen	mg/L	**< 10**	1.96	2.02	1.93	2.15	1.90	2.08
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

ARIHANT ANALYTICAL LABORATORY PVT. LTD.

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

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

TEST CERTIFICATE

Issued To:	**M/s Environze Global Limited** 110, Laxmi Deep Tower, District Centre Laxmi Nagar, Delhi – 110 092	**Report No.**	AAL WQT-20191019005
		Date of Receiving:	19/10/2019
		Date of Starting:	19/10/2019
		Date of Completion:	24/10/2019
Sample Description:	One Sample described as **STP Outlet Water**, was received.	**Date of Reporting:**	24/10/2019
		Sample Quantity:	1 Litre
Sample ID:	**JSW Plant**	**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	-	6.84	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	15.5	30 Max.	100 Max.	IS 3025(P-44)-1993
5	Chemical Oxygen Demand (COD)	mg/l	78.0	250 Max.	-	IS 3025(P-58)-2006
6	Total Nitrogen (as N)	mg/l	9.4	-	-	IS 3025(P-34)-1988
7	Ammonical Nitrogen (as N)	mg/l	1.6	50 Max.	-	IS 3025(P-34)-1988
8	Faecal Coliform	MPN/100ml	32	<100		IS 1622-1981

****End of Report****

Vinay Dixit
(Microbiologist)
Authorised Signatory

Ashutosh Srivastava
(SR. MANAGER)
Authorised Signatory

Note: 1. The Result indicated above refer to the tested sample and listed test parameters only, endorsement of products is neither inferred not implied.
2. Total liability of our laboratory is limited to the invoice amount.
3. This report shall not be reproduced wholly or in part without written consent of the laboratory.
4. This report shall not be used in any advertising media or as evidence in the court of law without prior written consent of the laboratory.
5. The non-perishable sample received shall be destroyed after one month and perishable sample shall be destroyed after one week from the date of issue of report unless specified.

ARIHANT ANALYTICAL LABORATORY PVT. LTD.

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

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

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

Website : www.aalkundli.com

TEST CERTIFICATE

Issued To:	**M/s Environze Global Limited** 110, Laxmi Deep Tower, District Centre Laxmi Nagar, Delhi – 110 092	**Report No.**	AAL WQT-20191116001
		Date of Receiving:	16/11/2019
		Date of Starting:	16/11/2019
		Date of Completion:	21/11/2019
Sample Description:	One Sample described as **STP Outlet Water**, was received.	**Date of Reporting:**	21/11/2019
		Sample Quantity:	1 Litre
Sample ID:	**JSW Plant**	**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	-	7.57	5.5 - 9.0	5.5 - 9.0	IS 3025(P-11)-1983
2	Total Suspended Solids	mg/l	19.4	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	18.0	30 Max.	100 Max.	IS 3025(P-44)-1993
5	Chemical Oxygen Demand (COD)	mg/l	89.0	250 Max.	-	IS 3025(P-58)-2006
6	Total Nitrogen (as N)	mg/l	10.3	-	-	IS 3025(P-34)-1988
7	Ammonical Nitrogen (as N)	mg/l	2.4	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
(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 not implied.
2. Total liability of our laboratory is limited to the invoice amount.
3. This report shall not be reproduced wholly or in part without written consent of the laboratory.
4. This report shall not be used in any advertising media or as evidence in the court of law without prior written consent of the laboratory.
5. The non-perishable sample received shall be destroyed after one month and perishable sample shall be destroyed after one week from the date of issue of report unless specified.

ARIHANT ANALYTICAL LABORATORY PVT. LTD.

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

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

TEST CERTIFICATE

Issued To: **M/s Environze Global Limited**
110, Laxmi Deep Tower,
District Centre Laxmi Nagar,
Delhi – 110 092

Sample Description: One Sample described as **STP Outlet Water**, was received.

Sample ID: **JSW Plant**

Report No. AAL WQT-20191226004

Date of Receiving: 26/12/2019
Date of Starting: 26/12/2019
Date of Completion: 31/12/2019
Date of Reporting: 31/12/2019
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	-	6.92	5.5 - 9.0	5.5 - 9.0	IS 3025(P-11)-1983
2	Total Suspended Solids	mg/l	14.5	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	12.0	30 Max.	100 Max.	IS 3025(P-44)-1993
5	Chemical Oxygen Demand (COD)	mg/l	59.0	250 Max.	-	IS 3025(P-58)-2006
6	Total Nitrogen (as N)	mg/l	8.4	-	-	IS 3025(P-34)-1988
7	Ammonical Nitrogen (as N)	mg/l	1.2	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
(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 not implied.
2. Total liability of our laboratory is limited to the invoice amount.
3. This report shall not be reproduced wholly or in part without written consent of the laboratory.
4. This report shall not be used in any advertising media or as evidence in the court of law without prior written consent of the laboratory.
5. The non-perishable sample received shall be destroyed after one month and perishable sample shall be destroyed after one week from the date of issue of report unless specified.

ARIHANT ANALYTICAL LABORATORY PVT. LTD.

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

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

TEST CERTIFICATE

Issued To:	**M/s Environze Global Limited** 110, Laxmi Deep Tower, District Centre Laxmi Nagar, Delhi – 110 092	**Report No.**	AAL WQT-20200129020
		Date of Receiving:	29/01/2020
		Date of Starting:	29/01/2020
		Date of Completion:	03/02/2020
Sample Description:	One Sample described as **STP Outlet Water**, was received.	**Date of Reporting:**	03/02/2020
		Sample Quantity:	1 Litre
Sample ID:	**JSW Plant**	**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	-	6.89	5.5 - 9.0	5.5 - 9.0	IS 3025(P-11)-1983
2	Total Suspended Solids	mg/l	12.4	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	13.5	30 Max.	100 Max.	IS 3025(P-44)-1993
5	Chemical Oxygen Demand (COD)	mg/l	67.0	250 Max.	-	IS 3025(P-58)-2006
6	Total Nitrogen (as N)	mg/l	8.6	-	-	IS 3025(P-34)-1988
7	Ammonical Nitrogen (as N)	mg/l	1.0	50 Max.	-	IS 3025(P-34)-1988
8	Faecal Coliform	MPN/100ml	34	<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 not implied.
2. Total liability of our laboratory is limited to the invoice amount.
3. This report shall not be reproduced wholly or in part without written consent of the laboratory.
4. This report shall not be used in any advertising media or as evidence in the court of law without prior written consent of the laboratory.
5. The non-perishable sample received shall be destroyed after one month and perishable sample shall be destroyed after one week from the date of issue of report unless specified.

ARIHANT ANALYTICAL LABORATORY PVT. LTD.

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

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

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

Website : www.aalkundli.com

TEST CERTIFICATE

Report No. AAL WQT-20200224008

Issued To: **M/s Environze Global Limited**
110, Laxmi Deep Tower,
District Centre Laxmi Nagar,
Delhi – 110 092

Sample Description: One Sample described as **STP Outlet Water**, was received.

Sample ID: **JSW Plant**

Date of Receiving: 24/02/2020
Date of Starting: 24/02/2020
Date of Completion: 29/02/2020
Date of Reporting: 29/02/2020
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	-	6.82	5.5 - 9.0	5.5 - 9.0	IS 3025(P-11)-1983
2	Total Suspended Solids	mg/l	19.4	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	16.0	30 Max.	100 Max.	IS 3025(P-44)-1993
5	Chemical Oxygen Demand (COD)	mg/l	79.0	250 Max.	-	IS 3025(P-58)-2006
6	Total Nitrogen (as N)	mg/l	9.4	-	-	IS 3025(P-34)-1988
7	Ammonical Nitrogen (as N)	mg/l	<1.0	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 not implied.
2. Total liability of our laboratory is lim ted to the invoice amount.
3. This report shall not be reproduced wholly or in part without written consent of the laboratory.
4. This report shall not be used in any advertising media or as evidence in the court of law without prior written consent of the laboratory.
5. The non-perishable sample received shall be destroyed after one month and perishable sample shall be destroyed after one week from the date of issue of report unless specified.

ARIHANT ANALYTICAL LABORATORY PVT. LTD.

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

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

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

Website : www.aalkundli.com

TEST CERTIFICATE

Issued To: M/s Environze Global Limited
110, Laxmi Deep Tower,
District Centre Laxmi Nagar,
Delhi – 110 092

Sample Description: One Sample described as **STP Outlet Water**, was received.

Sample ID: JSW Plant

Report No. AAL WQT-20200321004

Date of Receiving: 21/03/2020
Date of Starting: 21/03/2020
Date of Completion: 24/03/2020
Date of Reporting: 24/03/2020
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	-	6.94	5.5 - 9.0	5.5 - 9.0	IS 3025(P-11)-1983
2	Total Suspended Solids	mg/l	11.6	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	12.0	30 Max.	100 Max.	IS 3025(P-44)-1993
5	Chemical Oxygen Demand (COD)	mg/l	54.0	250 Max.	-	IS 3025(P-58)-2006
6	Total Nitrogen (as N)	mg/l	6.7	-	-	IS 3025(P-34)-1988
7	Ammonical Nitrogen (as N)	mg/l	<1.0	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
(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 not implied.
2. Total liability of our laboratory is limited to the invoice amount.
3. This report shall not be reproduced wholly or in part without written consent of the laboratory.
4. This report shall not be used in any advertising media or as evidence in the court of law without prior written consent of the laboratory.
5. The non-perishable sample received shall be destroyed after one month and perishable sample shall be destroyed after one week from the date of issue of report unless specified.

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

Ref: JSWE(B)L/ENV/19-20/003 Date: 10.12.2019

To,
The Member Secretary (Hard Copy)
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)/2016-2017/9342-9344** Order No. **2016-2017/HDF/2505**, Dt: **03/01/2017**
2. Compliance to CTO for Unit 3 & 4, File No. **F(HDF)/Barmer(Barmer)/9(1)/2016-2017/9501-9503** Order No. **2016-2017/HDF/2506**, Dt: **04/01/2017**
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 **APRIL – 2019 to SEPTEMBER – 2019,** 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, (Formerly- Raj West Power Ltd)

JSW ENERGY LTD.

Chandan Singh Deora
Jr. Manager (Environment & Chemistry)

Enclosure:

1. Compliance Report
2. Stack monitoring Data
3. AAQ Monitoring Data
4. Effluent Water Data
5. STP Treated Water Quality

16/12/19

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