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: JSWEBL/ENV/19-20/011 Date: 14.06.2019

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)/2016-2017/9342-9344** 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 JSW Energy (Barmer) Limited Formerly Raj WestPower Limited, Bhadresh, Dist-Barmer, Rajasthan, we herewith submit half-yearly compliance report, for the period pertaining to **OCTOBER – 2018 to MARCH – 2019,** for the conditions stipulated in the Environmental clearance issued for this Power Project. Analysis Data has uploaded on JSWE(B)L 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) Limited

Dilip D. Narwani
Dy. General Manager (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)/2016-2017/9342-9344 Order No. 2016-2017/HDF/2505, Dt: 03/01/2017

SN	Condition	Compliance
1	That this Consent to Operate is valid for a period from **01/01/2016** to **31/12/2018**	Units are commissioned & are being operated during the stipulated period. Renewal application is applied as per norms.
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 being issued for production capacity of 2 x 135 MW (Unit 1 & 2) thermal power plant.	Being Complied
9	That the total project cost of the unit shall not exceed 5360.71 crores including the cost of land, building, plant & machinery.	Being complied.
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 all the conditions imposed vide letter no F (Tech)/Barmer(Barmer)/3(1)/2008-2009/6820-6823 dated 30/10/2012 shall be complied.	Being Complied.
12	That the Charter of Corporate Responsibility for Environment Protection specified for power plants shall be complied	Being Complied.
13	That the industry will comply with the standards as prescribed vide MOEF notification No. GSR 826(E) dated Nov-2009 with respect of National Ambient Air Quality Standards.	Being Complied.
14	That the industry shall provide & maintain adequate dust collection and Extraction system to control fugitive dust emission at coal crusher and coal Transfer points.	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.
15	That the particulate emissions from stack of various sections of power plant shall Not exceed 100 mg/NM3 .	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.
16	That the industry shell provide and maintain opacity meter with each boiler stack to monitor the emission level of particulate matter. Monthly observation will be submitted to RO office along with the reason of / clarification for any recorded violation of the prescribed standards.	Being complied
17	That low NOx burners shall be installed at the 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.

18	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.
19	That for the control fugitive emission guidelines /code of practice as issued by CPCB will be followed.	Followed – being complied
20	That the project proponent shall undertake measures and ensure that no fugitive fly ash emissions take place at any point of time.	Followed – being complied
21	That the fly ash shall be collected in dry form and its 100 % utilisation shall be ensured by 28.02.13. Ash to be disposed off in the ash pond shall be through HCSD system.	Complied
22	That no industrial effluent will be discharged outside from the factory premises in to a stream or well or sewer or on land and the effluent generated from power plant shall be used for ash quenching, control of fugitive emissions and plantation.	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 ETP.
24	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.	Domestic Sewage will be treated and using for in house plantation/ green belt development.
25	Ash pond shall be lined with HDPE / LDPE lining or any other 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.	Ash Pond is Lined with HDPE lining – Complied
26	That no ground water shall be abstracted without prior permission from the State Board and the CGWA	Water is being drawn from IGNP canal - No ground water is being extracted
27	That suitable flow measuring device / meters on the intake source of water, inlet and outlet of effluent treatment / sewage treatment plant shall be installed and maintained	Complied

28	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
29	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.
30	That the unit shall install flow meters at inlet and outlet of STP and at outlet of ETP.	Flow meters provided at Outlet of STP and ETP
31	That the unit shall submit details of solid waste generated from the plant to Regional Officer of the State Board, Balotra.	Being Complied
32	That the Thermal power plant shall meet the limits of Boiler (specified in condition no.5) latest by 07/12/2017, as per the Notification dated 07.12.2015 issued by the Ministry of Environment, Forest and Climate Change, Government of India. Further, the industry shall also submit action plan for implementation of the aforesaid standards within one month of issue of this letter.	Plan for implementation is submitted
33	That the Thermal power plant shall comply with water consumption limit as specified in the Notification dated 07/12/2015 issued by the Ministry of Environment, Forest and Climate Change (MoEF&CC).	Plan for implementa Plan for implementation is submitted tion is submitted
34	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
35	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

36	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 3 & 4

File No. F(HDF)/Barmer(Barmer)/9(1)/2016-2017/9501-9503 Order No. 2016-2017/HDF/2506, Dt: 04/01/2017

SN	Condition	Compliance
1	That this Consent to Operate is valid for a period from **01/12/2015** to **30/11/2018**	Units are commissioned & are being operated during the stipulated period. Renewal application is applied as per norms.
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.
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 being issued for production capacity of 2 x 135 MW (Unit 1 & 2) thermal power plant.	Being Complied
9	That the total project cost of the unit shall not exceed 5360.71 crores including the cost of land, building, plant & machinery.	Being complied.
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 all the conditions imposed vide letter no F (Tech)/Barmer(Barmer)/3(1)/ 2008-2009/6820-6823 dated 30/10/2012 shall be complied.	Being Complied.
12	That the Charter of Corporate Responsibility for Environment Protection specified for power plants shall be complied	Being Complied.
13	That the industry will comply with the standards as prescribed vide MOEF notification No. GSR 826(E) dated Nov-2009 with respect of National Ambient Air Quality Standards.	Being Complied.
14	That the industry shall provide & maintain adequate dust collection and Extraction system to control fugitive dust emission at coal crusher and coal Transfer points.	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.
15	That the particulate emissions from stack of various sections of power plant shall Not exceed 100 mg/NM3 .	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.

16	That the industry shell provide and maintain opacity meter with each boiler stack to monitor the emission level of particulate matter. Monthly observation will be submitted to RO office along with the reason of / clarification for any recorded violation of the prescribed standards.	Being complied
17	That low NOx burners shall be installed at the 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.
18	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.
19	That for the control fugitive emission guidelines /code of practice as issued by CPCB will be followed.	Followed – being complied
20	That the project proponent shall undertake measures and ensure that no fugitive fly ash emissions take place at any point of time.	Followed – being complied
21	That no industrial effluent will be discharged outside from the factory premises in to a stream or well or sewer or on land and the effluent generated from power plant shall be used for ash quenching, control of fugitive emissions and plantation.	All the effluent will be used inside the plant premises for green belt, road dust suppression and Ash Pond Dust Suppression.
22	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.
23	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.	Domestic Sewage will be treated and using for in house plantation/ green belt development.
24	Ash pond shall be lined with HDPE / LDPE lining or any other 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.	Ash Pond is Lined with HDPE lining – Complied

25	That no ground water shall be abstracted without prior permission from the State Board and the CGWA	Water is being drawn from IGNP canal - No ground water is being extracted
26	That suitable flow measuring device / meters on the intake source of water, inlet and outlet of effluent treatment / sewage treatment plant shall be installed and maintained	Complied
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 the unit shall install flow meters at inlet and outlet of STP and at outlet of ETP.	Flow meters provided at Outlet of STP and ETP
30	That the unit shall submit details of solid waste generated from the plant to Regional Officer of the State Board, Balotra.	Complied
31	That the Thermal power plant shall meet the limits of Boiler (specified in condition no.5) latest by 07/12/2017, as per the Notification dated 07.12.2015 issued by the Ministry of Environment, Forest and Climate Change, Government of India. Further, the industry shall also submit action plan for implementation of the aforesaid standards within one month of issue of this letter.	Plan for implementation is submitted
32	That the Thermal power plant shall comply with water consumption limit as specified in the Notification dated 07/12/2015 issued by the Ministry of Environment, Forest and Climate Change (MoEF&CC).	Plan for implementation is submitted
33	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

34	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
35	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 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 commissioned & will be operated during the stipulated period. Renewal application is applied as per norms.
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 M/s Shree Cement. 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.	Shall be complied with.
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 commissioned & will be operated during the stipulated period. Renewal application is applied as per norms.
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 * Sate 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 peat 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 peat head project and designed on basis of Lignite coal from Adjacent Kapurdi and Jalipa Lignite.

STACK EMISSION MONITORING RESULTS OCT – 2018 to MAR – 2019

Month: Oct' 2018

SN	Parameters	UOM	Unit-I	Unit - II	Unit - III	Unit - IV	Unit - V	Unit - VI	Unit-VII	Unit-VIII
1	Average Velocity	m/Sec	18.4	19.7	19.0	19.0		18.2	18.1	20.6
2	Flow	Nm^3/Sec	348.1	373.8	369.9	355.7		350	363.2	382.8
3	Stack Exit Temp.	^0C	157	154	144	160		148	132	163
4	Particulate Matter	mg/Nm^3	536	450	516	510		485	465	477
5	Sulphur Dioxide	mg/Nm^3	229	159	178	196		242	210	206
6	Oxides of Nitrogen	mg/Nm^3	13.2	10.8	14.6	12.9		18.9	17.5	16.6

Month: Nov' 2018

SN	Parameters	UOM	Unit-I	Unit - II	Unit - III	Unit - IV	Unit - V	Unit - VI	Unit-VII	Unit-VIII
1	Average Velocity	m/Sec	16.0	15.7	16.6	16.7	17.0	16.2	17.2	17.9
2	Flow	Nm^3/Sec	304.2	311.8	321.1	310.7	319.5	309.2	330.1	337.5
3	Stack Exit Temp.	^0C	154	136	146	162	159	151	149	158
4	Particulate Matter	mg/Nm^3	55.8	58.6	51.9	48.6	57.4	50.9	53.7	61.3
5	Sulphur Dioxide	mg/Nm^3	463	443	441	378	492	406	591	390
6	Oxides of Nitrogen	mg/Nm^3	176	187	165	198	213	238	205	165

Month: Dec' 2018

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		16.5	15.9	16.9	15.8	16.5
2	Flow	Nm^3/Sec		315.4		317.6	302.4	314.5	301.3	306
3	Stack Exit Temp.	^0C	Shut down	144	Shut down	149	153	162	153	165
4	Particulate Matter	mg/Nm^3		52.8		49.6	55.2	48.6	55.8	58.4
5	Sulphur Dioxide	mg/Nm^3		451		480	504	474	509	515
6	Oxides of Nitrogen	mg/Nm^3		147		141	197	177	197	193

Month: Jan' 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	16.0	13.0	13.6	13.0	15.1	15.0	14.9	14.9
2	Flow	Nm^3/Sec	312.2	265.8	273.1	259.1	299.7	296.0	293.0	290.5
3	Stack Exit Temp.	^0C	143	124	131	135	136	139	139	142
4	Particulate Matter	mg/Nm^3	51.6	49.8	52.6	55.2	48.6	50.4	53.9	49.6
5	Sulphur Dioxide	mg/Nm^3	559	573	431	427	461	456	542	526
6	Oxides of Nitrogen	mg/Nm^3	146	160	172	168	144	183	167	172

Month: Feb' 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	14.8	15.7	15.7	16.2	16.6	16.5		13.6
2	Flow	Nm^3/Sec	297.2	310.1	301.1	324.7	321.6	315.0		262.8
3	Stack Exit Temp.	^0C	131	137	150	133	146	152	Shut down	148
4	Particulate Matter	mg/Nm^3	48.6	51.8	50.7	52.9	46.3	54.8		48.9
5	Sulphur Dioxide	mg/Nm^3	530	569	591	565	585	567		585
6	Oxides of Nitrogen	mg/Nm^3	173	166	168	161	178	196		159

Month: Mar' 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	17.1	18.3	16.5	16.8	14.0	15.9	16.8	15.8
2	Flow	Nm^3/Sec	331.5	349.3	326.1	333.5	289.1	325.6	340.1	316.3
3	Stack Exit Temp.	^0C	146	153	138	135	119	124	129	132
4	Particulate Matter	mg/Nm^3	48.9	50.7	54.2	49.9	51.9	50.1	52.9	45.5
5	Sulphur Dioxide	mg/Nm^3	522	515	469	434	439	444	534	489
6	Oxides of Nitrogen	mg/Nm^3	201	210	156	150	132	141	146	142

Unit # 1 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
OCT– 18	Average	108	41	77
	Max	314	43	79
NOV- 18	Average	134	53	61
	Max	233	93	80
DEC – 18	Average	109	68	24
	Max	346	107	60
JAN-19	Average	161	103	50
	Max	431	138	66
Feb-19	Average	140	116	43
	Max	431	147	73
MAR-19	Average	125	87	16
	Max	298	137	49

Unit # 2 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
OCT– 18	Average	133	48	57
	Max	341	151	59
NOV- 18	Average	153	49	56
	Max	237	174	60
DEC – 18	Average	141	57	56
	Max	255	115	61
JAN-19	Average	141	53	59
	Max	274	174	63
Feb-19	Average	202	78	47
	Max	368	143	79
MAR-19	Average	213	33	40
	Max	557	159	56

Unit # 3 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
OCT– 18	Average	194	68	74
	Max	217	88	75
NOV- 18	Average	122	39	69
	Max	328	142	71
DEC – 18	Average	137	33	51
	Max	437	148	56
JAN-19	Average	195	85	69
	Max	377	125	75
Feb-19	Average	199	102	56
	Max	377	139	75
MAR-19	Average	112	53	35
	Max	457	178	57

Unit # 4 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
OCT– 18	Average	122	43	70
	Max	438	149	76
NOV- 18	Average	119	51	57
	Max	395	172	77
DEC – 18	Average	115	78	56
	Max	322	127	69
JAN-19	Average	132	89	35
	Max	249	114	61
Feb-19	Average	158	88	28
	Max	261	137	61
MAR-19	Average	275	92	30
	Max	430	164	63

Unit # 5 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
OCT– 18	Average	308	52	54
	Max	329	164	71
NOV- 18	Average	277	71	40
	Max	410	105	50
DEC – 18	Average	350	82	53
	Max	456	121	81
JAN-19	Average	377	70	53
	Max	456	95	75
Feb-19	Average	312	80	53
	Max	456	142	87
MAR-19	Average	83	26	45
	Max	408	141	67

Unit # 6 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
OCT– 18	Average	394	72	52
	Max	450	102	69
NOV- 18	Average	344	114	50
	Max	452	177	68
DEC – 18	Average	316	56	40
	Max	452	102	45
JAN-19	Average	298	82	34
	Max	400	137	51
Feb-19	Average	266	123	44
	Max	400	182	55
MAR-19	Average	189	76	49
	Max	286	120	75

Unit # 7 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
OCT– 18	Average	349	83	40
	Max	388	88	55
NOV- 18	Average	249	76	43
	Max	401	123	53
DEC – 18	Average	284	50	47
	Max	409	185	51
JAN-19	Average	313	71	45
	Max	416	97	47
Feb-19	Average	365	84	46
	Max	416	97	47
MAR-19	Average	281	77	46
	Max	376	123	57

Unit # 8 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
OCT– 18	Average	368	67	53
	Max	423	175	58
NOV- 18	Average	287	75	32
	Max	418	110	62
DEC – 18	Average	324	51	54
	Max	429	169	63
JAN-19	Average	261	96	51
	Max	396	131	62
Feb-19	Average	187	64	41
	Max	461	131	66
MAR-19	Average	66	26	30
	Max	433	153	63

Ambient Air Quality Data- Oct – 2018 to Mar – 2019

Month – Oct' 2018

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	85	6.89	22.5	0.44	11.89
2	Ash pond	38.26	16.31	14.29	0.54	31.47
3	Resevoir Area	29.99	14.56	10.1	2.79	5.36
4	Bhadresh Village	71.9	27	17.6	ND	38.4
5	Isharpura Village	75.3	22.2	14.8	ND	34.9
6	Chuli Village	75.3	22.2	14.8	ND	34.9

Month – Nov' 2018

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	49.14	22.6	33.6	2.37	16.71
2	Main Gate	37.88	20.89	15.24	0.55	33.16
3	Ash pond	36.3	15.25	10.35	2.75	5.66
4	Bhadresh Village	73.4	26.8	17.6	ND	39.2
5	Isharpura Village	76.7	22.6	15	ND	35.5
6	Chuli Village	76.7	22.6	15	ND	35.5

Month – Dec' 2018

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	52.73	22.54	35.45	1.35	20.44
2	Main Gate	44.89	21.08	14.6	0.39	23.41
3	Ash pond	33.98	15.44	10.33	2.74	10.86
4	Bhadresh Village	74.2	27.4	17.5	ND	39.7
5	Isharpura Village	78.2	23	15.3	ND	36.2
6	Chuli Village	78.2	23	15.3	ND	36.2

Month – Jan' 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	59.47	22.56	26.87	1.82	17.82
2	Main Gate	38.49	21.55	14.67	0.34	24.35
3	Ash pond	29.66	15.31	9.95	2.8	11.09
4	Bhadresh Village	74.6	28.1	17.9	ND	39.9
5	Isharpura Village	79.7	23.4	15.8	ND	36.4
6	Chuli Village	79.7	23.4	15.8	ND	36.4

Month – Feb' 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	85.7	17.77	6.84	2.21	13.06
2	Main Gate	39.29	14.99	16.47	0.33	25.2
3	Ash pond	30.93	10.31	14.8	2.38	11.13
4	Bhadresh Village	76.6	27.6	17.8	ND	41.1
5	Isharpura Village	77.3	23.6	16	ND	39.2
6	Chuli Village	77.3	23.6	16	ND	39.2

Month – Mar' 2018

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	56.64	22.09	22.55	0.69	13.3
2	Main Gate	36.99	14.96	20.18	0.29	24.98
3	Ash pond	39.21	10.95	15.15	0.68	11.46
4	Bhadresh Village	74.6	26.9	17.3	ND	40.1
5	Isharpura Village	75.3	23.6	15.7	ND	37.7
6	Chuli Village	75.3	23.6	15.7	ND	37.7

Effluent Water Quality OCT – 2018 to MAR – 2019

SN	Parameters	UoM	CPCB Limits	Results					
				Oct	Nov	Dec	Jan	Fab	Mar
1.	pH		**6.5-8.5**	7	7.2	7	7.1	7	6.9
2.	Biochemical Oxygen Demand (BOD) @ 27Deg C for 3 days	mg/L	**< 30.0**	20.5	21	22.8	22	22	22.8
3.	Chemical Oxygen Demand (COD)	mg/L	**< 250**	71	72.3	75.5	74	74.3	79.5
4.	Total Kjeldhal Nitrogen as NH3	mg/L	**< 100**	9.1	8.5	8.3	8.6	8.5	8.5
5.	Free Available Chlorine	mg/L	**< 0.5**	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18
6.	Oil & Grease	mg/L	**< 20**	2.6	3.2	2.2	3.1	2.5	1.6
7.	Copper as Cu	mg/L	**< 1**	0.017	0.047	0.014	0.015	0.02	0.013
8.	Zinc as Zn	mg/L	**< 1**	0.27	0.38	0.37	0.36	0.36	0.31
9.	Iron as Fe	mg/L	**< 1**	0.405	0.433	0.423	0.403	0.41	0.395
10.	Total Suspended Solid	mg/L	**< 100**	37.5	37.8	33.5	38.5	34.5	34
11.	Ammonical Nitrogen as N	mg/L	**< 50**	5.9	5.7	5.2	5.6	5.7	4.9
12.	Nitrate Nitrogen	mg/L	**< 10**	2.2	2	1.9	2.1	2.1	2
13.	Total Chromium as Cr	mg/L	**< 1**	<0.01	<0.01	<0.01	<0.01	<0.01	<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

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

Sample ID: **JSW Plant**

Report No. AAL WQT-20181022003

Date of Receiving: 22/10/2018
Date of Starting: 22/10/2018
Date of Completion: 26/10/2018
Date of Reporting: 26/10/2018
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	-	6.64	5.5 - 9.0	5.5 - 9.0	IS 3025(P-11)-1983
2	Total Suspended Solids	mg/l	14.4	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	10.0	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	5.6	-	-	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	21	<100		IS 1622-1981

End of Report

Vinay Dixit
(Microbiologist)
Authorized Signatory

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.

ENVIRONZE

TEST REPORT

Date of Sample collected- 05.11.18
Date of Sample received- 06.11.18
Date of Reporting- 17.11.18

Report No. : EGL-1819/0201

Issued To: M/S Rajwest Power Ltd.
Village & Post: Bhadresh
Dist: Barmer, Rajasthan
Pin:-344001

Project Site: - **Plant**
Nature of Sample**: STP Outlet Water**
Sample Collected By: EGL

TEST RESULT

S. No.	Parameter	Standard	Result	Unit
1	pH Value	5.5 to 9.0	6.01	—
2	Total Suspended Solid	100 mg/l	20.1	Mg/l
3	Oil & Grease	10mg/l	<2.0	Mg/l
4	Biochemical Oxygen Demand (BOD) @27C-3Days	30mg/l	17.2	Mg/l
5	Chemical Oxygen Demand (COD)	250mg/l	49.2	Mg/l
6	Ammonical Nitrogen	<75 mg/l	<1.0	Mg/l
7	Total Kjeldahl Nitrogen	< 100mg/l	6.5	Mg/l
8	Faecal Coliform	<100	19	Mg/l

Thanks & Regards

Pooja Sharma
Environze Global Ltd

ENVIRONZE GLOBAL LIMITED
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TEL: + 91 11 2245 2291, FAX: + 91 11 2245 2292, EMAIL: ENVIRONZE@OUTLOOK.COM

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TEST REPORT

Date of Sample collected- 11.12.18
Date of Sample received- 12.12.18
Date of Reporting- 17.12.18

Report No. : EGL-1819/0204

Issued To: M/S Rajwest Power Ltd.
Village & Post: Bhadresh
Dist: Barmer, Rajasthan
Pin:-344001

Project Site: - **Plant**
Nature of Sample**: STP Outlet Water**
Sample Collected By: EGL

TEST RESULT

S. No.	Parameter	Standard	Result	Unit
1	pH Value	5.5 to 9.0	6.9	—
2	Total Suspended Solid	100 mg/l	21.1	Mg/l
3	Oil & Grease	10mg/l	<2.0	Mg/l
4	Biochemical Oxygen Demand (BOD) @27C-3Days	30mg/l	18.3	Mg/l
5	Chemical Oxygen Demand (COD)	250mg/l	48.5	Mg/l
6	Ammonical Nitrogen	<75 mg/l	<1.0	Mg/l
7	Total Kjeldahl Nitrogen	< 100mg/l	6.1	Mg/l
8	Faecal Coliform	<100	17	Mg/l

Thanks & Regards

Pooja Sharma
Environze Global Ltd

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TEST REPORT

Date of Sample collected- 13.01.19
Date of Sample received- 14.01.19
Date of Reporting- 17.01.19

Report No. : EGL-1819/0207

Issued To: M/S JSW Energy (Barmer) Limited
Village & Post: Bhadresh
Dist: Barmer, Rajasthan
Pin:-344001

Project Site: - **Plant**
Nature of Sample**: STP Outlet Water**
Sample Collected By: EGL

TEST RESULT

S. No.	Parameter	Standard	Result	Unit
1	pH Value	5.5 to 9.0	6.7	—
2	Total Suspended Solid	100 mg/l	19.2	Mg/l
3	Oil & Grease	10mg/l	<2.0	Mg/l
4	Biochemical Oxygen Demand (BOD) @27C-3Days	30mg/l	17.1	Mg/l
5	Chemical Oxygen Demand (COD)	250mg/l	45.2	Mg/l
6	Ammonical Nitrogen	<75 mg/l	<1.0	Mg/l
7	Total Kjeldahl Nitrogen	< 100mg/l	6.5	Mg/l
8	Faecal Coliform	<100	16	Mg/l

Thanks & Regards

Pooja Sharma
Environze Global Ltd

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TEST REPORT

Date of Sample collected- 12.02.19
Date of Sample received- 14.02.19
Date of Reporting- 18.02.19

Report No. : EGL-1819/0210

Issued To: M/S JSW Energy (Barmer) Limited
Village & Post: Bhadresh
Dist: Barmer, Rajasthan
Pin:-344001

Project Site: - **Plant**
Nature of Sample**: STP Outlet Water**
Sample Collected By: EGL

TEST RESULT

S. No.	Parameter	Standard	Result	Unit
1	pH Value	5.5 to 9.0	6.1	__
2	Total Suspended Solid	100 mg/l	18.2	Mg/l
3	Oil & Grease	10mg/l	<2.0	Mg/l
4	Biochemical Oxygen Demand (BOD) @27C-3Days	30mg/l	16.2	Mg/l
5	Chemical Oxygen Demand (COD)	250mg/l	42.5	Mg/l
6	Ammonical Nitrogen	<75 mg/l	<1.0	Mg/l
7	Total Kjeldahl Nitrogen	< 100mg/l	6.1	Mg/l
8	Faecal Coliform	<100	13	Mg/l

Thanks & Regards

Pooja Sharma
Environze Global Ltd

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Website : www.aalkundli.com

TEST CERTIFICATE

Report No. AAL WQT-20190301001

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: 01/03/2019
Date of Starting: 01/03/2019
Date of Completion: 06/03/2019
Date of Reporting: 06/03/2019
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	-	6.45	5.5 - 9.0	5.5 - 9.0	IS 3025(P-11)-1983
2	Total Suspended Solids	mg/l	29.4	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	15.5	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	6.4	-	-	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	17	<100		IS 1622-1981

End of Report

Vinay Dixit
(Microbiologist)
Authorized Signatory

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.