



Energy (Barmer) Limited

(Formerly : Raj WestPower 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/20-21/024

Date: 11.12.2020

To,

**Ministry of Environment & Forests
Indira Paryavaran Bhavan,
Ali Ganj, Jorbagh Road,
New Delhi, Delhi 110003**

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

Dear Sir,

With reference to your letter No. J-13011/58/2006-IA-II (T) dated 20.07.2007 and 19.11.2009, and followed by Letter no. IV/ENV/R/Th-39/679/08/273, we herewith submit half-yearly compliance report, for the period pertaining to **APRIL- 2020 to SEPTEMBER- 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 Project activity at proposed site incorporating the conditions stipulated in this environmental clearance.

Thanking you.

For JSW ENERGY (BARMER) Ltd.

Vinod Jindal

AGM (Operation, Environment & Chemistry)

Enclosure:

- | | |
|---------------------------------|----------------|
| 1. Compliance Report | |
| 2. Water consumption Data | -Annexure I |
| 3. Effluent Water Data | -Annexure II |
| 4. Coal Analysis Data | -Annexure III |
| 5. CEMS & Stack Monitoring DATA | -Annexure IV |
| 6. Ash Utilization Data | -Annexure V |
| 7. Noise Monitoring | -Annexure VI |
| 8. AAQ Monitoring Data | -Annexure VII |
| 9. Last Compliance Report | -Annexure VIII |

C.C.

The Director – MOEF, Lucknow

The Member Secretary – Central Pollution Control Board, Delhi

The Member Secretary – RSPCB, Jaipur

The Regional Officer – RSPCB, Balotra.



Part of O.P.Jindal Group

Regd. Office : JSW Energy (BARMER) Limited, JSW Center, BKC Complex, Bandra (E), Mumbai – 400051

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

Compliance report for MOEF conditions stipulated in Environmental Clearance (dt. 20-07-2007 as amended on 19-11-2009) for 1080 MW Lignite-based power project of RWPL at Village-Bhadresh, District-Barmer

Reporting Period: APR, 2020 – SEP, 2020

S.N.	Condition	Status
i	<i>No land in excess of 468 ha shall be acquired for any activity of the project.</i>	Land acquisition has been carried at the time of setting up the Power Project. No additional land been acquired for this Project.
ii	<i>The water requirement for the project shall not exceed 37.3 cusecs. No ground water shall be abstracted for any activity of the project.</i>	Water in excess of the mandated 37.3 cusecs would not be drawn during the operation of the Project. IGNP supplied water is being used for generation of Electricity as per EC conditions. Water being used Records of Water received from IGNP is enclosed. ANNEXURE-I
iii	<i>Closed Circuit Cooling System with induced draft cooling towers shall be installed.</i>	Four numbers of closed circuit cooling tower blocks with induced draft cooling towers have been erected and are in operation.
iv	<i>Treated effluents conforming to the prescribed standards shall be re-circulated and reused within the plant. No effluents shall be discharged outside the plant boundary.</i>	A common ETP (Aeration – Clarifier – Filtration – Ultra Filtration – Reverse Osmosis) to cater to all the 8 power generating units has erected. All the process effluents generated is being treated in this ETP and reused within the plant ensuring zero discharge outside the plant boundary. Effluent Water Quality Data – Annexure – II
v	<i>Lignite with ash content not exceeding 20% and sulphur content not exceeding 2.0% shall be used.</i>	Lignite with ash content less than 20% and Sulphur content less than 2% being used. Third party analysis reports for the same are enclosed. ANNEXURE-III

vi	<p><i>Space provision for FGD shall be made, if required at a later stage.</i></p>	<p>The Project is based on Circulating Fluidized Base Combustion technology for fuel firing and involves injection of lime, which absorbs Sulphur.</p> <p>As such, there is no requirement for FGD. However space provision has been made for FGD.</p>
vii	<p><i>Four stacks of 122 m height each with exit velocity of at least 20 m/s shall be provided with continuous online monitoring system.</i></p>	<p>A total of four bi-flue stacks, each flue of 122 m height, shall release the flue gases to the atmosphere. All these stacks being equipped with Continuous Emission Monitoring Systems (CEMS), to ensure the emission of PM, SO₂, NO_x & CO to be within prescribed levels. ANNEXURE-IV</p>
viii	<p><i>Low NO_x burners shall be installed.</i></p>	<p>The boiler is designed on Circulating Fluidized Bed Combustion, system attains to very low NO_x generation.</p>
ix	<p><i>High efficiency Electrostatic Precipitator (ESPs) having efficiency of 99.9% shall be installed so as to ensure that particulate emissions do not exceed 100 mg/Nm³.</i></p>	<p>High efficiency ESPs are installed to maintain PM emission levels at less than 100 mg/Nm³.</p>
xi	<p><i>Fly ash shall be collected in dry form and its 100% utilization shall be ensured within 3 years from the day of the commissioning of the plant. Ash to be disposed off in the ash pond shall be through HCSD system.</i></p>	<p>Fly ash is being collected in dry form from the currently operational EIGHT Units and is being lifted by M/s Shree Cement, M/s. JK Lakshmi, M/s. Ambuja Cement Limited & M/s Binani Cements and many Local Brick and Tiles Block manufacturer. Unutilized ash, if any, would be disposed off to the emergency ash pond through HCSD system.</p> <p>Ash Utilization data ANNEXURE-V</p>
xii	<p><i>Ash pond shall be lined with 0.5 mm thick HDPE geo-membrane lining.</i></p>	<p>The ash pond is lined with 0.5 mm thick HDPE geo-membrane, to avoid any leachate to the ground.</p>

<p>xiii</p>	<p><i>Details of compensation to be paid to the land oustees along with number of land oustees shall be worked out and submitted to this Ministry within three months from the date of issue of this letter or before the start of work on the project whichever is earlier.</i></p>	<p>Resettlement Action Plan (RAP) was compiled and submitted to the MOEF on 30-07-2007.</p>
<p>xiv</p>	<p><i>Necessary prior clearance from NHAI shall be obtained before laying the pipeline.</i></p>	<p>All necessary prior clearance from NHAI had obtained before laying the pipeline and a copy Submitted.</p>
<p>xv</p>	<p><i>Necessary prior clearance from Indian Air Force shall be obtained for construction of stacks of requisite height before starting the work on the project.</i></p>	<p>Before commencing the civil work on the stacks, necessary clearance had obtained from the Indian Air Force.</p>
<p>xvi</p>	<p><i>Adequate measures shall be taken up to maintain the sanctity and protection from any adverse impact from the proposed power project to the temple of Sant Ishardas Samadhi.</i></p>	<p>The Temple is outside the plant premises. In consultation with the local population, suitable developmental measures such as supply of lighting and electricity have been taken for this temple.</p>
<p>xvii</p>	<p><i>Regular monitoring of ground water quality including heavy metals shall be undertaken in the project area to ascertain the change, if any, in the water quality due to leaching of contaminants from the ash disposal area.</i></p>	<p>There is hardly any ground water within 20 km of the Project area.</p>
<p>xviii</p>	<p><i>Noise levels shall be limited to 75 dBA. For people working in the high noise area, protective devices such as earplugs etc. shall be provided.</i></p>	<p>The machinery has been designed to limit the noise levels to 75 dB (A). All personnel working in the Plant have PPEs issued. ANNEXURE-VI</p>
<p>xix</p>	<p><i>A greenbelt shall be developed all around the plant boundary and ash pond covering an area of 154 ha.</i></p>	<p>A total of 154 Ha area brought under green belt developed as designated greenbelt area. Mortality replacement work is continuous process and is being carried.</p>
<p>xx</p>	<p><i>Regular monitoring of the air quality shall be carried out in and around the power plant and records shall be maintained. The location of monitoring stations and frequency of monitoring shall be finalized in consultation with SPCB. Six monthly reports shall be submitted to this Ministry.</i></p>	<p>Regular monitoring of AAQ is being carried out in and around the power plant at locations and frequency finalized in consultation with the RSPCB and records are maintained. ANNEXURE-VII</p>

xxi	<p><i>For controlling fugitive dust, regular sprinkling of water in lignite handling area and other vulnerable areas of the plant shall be ensured.</i></p>	<p>Regular sprinkling of water is being practiced to minimize the fugitive dust emissions.</p>
xxii	<p><i>The project proponent should advertise at least in two local newspapers widely circulated in the region around the project, one of which should be in the vernacular language of the locality concerned, informing that the project has been accorded environmental clearance and copies of clearance letters are available with the State Pollution Control Board/Committee and may also be seen in the Website of the Ministry of Environment and Forests in the http://envfor.nic.in.</i></p>	<p>Published in Rajasthan Patrika Jodhpur Edition, Dt 19/08/2007</p>
xxiii	<p><i>A separate environment monitoring cell with suitable qualified staff should be set up for implementation of the stipulated environmental safeguards.</i></p>	<p>A dedicated environment monitoring cell with qualified staff has been established and is operative.</p>
xxiv	<p><i>Half yearly report on the status of implementation of the conditions and environmental safeguards should be submitted to this Ministry, its Regional Office, CPCB and SPCB.</i></p>	<p>Being complied with. Copy of Submission enclosed – Annexure VIII</p>
xxv	<p><i>Regional Office of the Ministry of Environment & Forests located at Lucknow will monitor the implementation of the stipulated conditions. Complete set of Environmental Impact Assessment Report and Management Plan along with additional information submitted to this Ministry should be forwarded to the Regional Office for their use during monitoring.</i></p>	<p>Submitted.</p>
xxvi	<p><i>Separate funds should be allocated for implementation of environmental protection measures along with item-wise break-up. These cost should be included as part of the project cost. The funds earmarked for the environment protection measures should not be diverted for other purposes and year-wise expenditure should be reported to the Ministry.</i></p>	<p>The funds earmarked for environmental protection measures will not be diverted for other purposes.</p>
xxvii	<p><i>Full cooperation should be extended to the Scientists/Officers from the Ministry and its Regional Office at Lucknow /the CPCB/the SPCB during monitoring of the project.</i></p>	<p>Being complied.</p>

IGNP WATER BILL

APRIL-2020 To SEPTEMBER-2020

Month	Cuft/Month	Cum/Month	Cuft/day	Cusecs – Day
Apr-20	51983473	14,72,016	1732782	20.06
May-20	69556309	19,69,626	4501186	25.97
Jun-20	59899212	16,96,166	1996640	23.11
Jul-20	51809726	14,67,096	1671281	19.34
Aug-20	64768443	18,34,048	2089305	24.18
Sep-20	60869725	17,23,648	2028991	23.48

ANNEXURE-I

Govt of Rajasthan
Jalini Gandhi Nakerparajogam

No. 15 - 21/4/20
To
The General Manager,
J.S.W Energy Limited,
Near Sant Paul School,
Jhalini Colony Barmer,
Rajasthan

Date:

Subj: Raw water bill for Industrial purpose for the period of 01/Apr/2020 to 30/Apr/2020 as per

S. No	Particulars	Reading on 01/4/20	Reading on 30/4/20	Difference per block meter	Qty in cft @ 0.028317	Unit	Rate	Amount
1	Supply of Raw water from J.S.W. to J.S.W Energy Limited for Industrial purpose	102306202	10272229	1172616	51983473	1000 cft	20	1039663 = 50
Total								1039663 = 50
Payable								10,39,663/- only

(Payable) - Ten Lakh thirty nine thousand six hundred sixty three only

Govt of Rajasthan
Jalini Gandhi Nakerparajogam

No. 16 - 21/4/20
To
The General Manager,
J.S.W Energy Limited,
Near Sant Paul School,
Jhalini Colony Barmer,
Rajasthan

Date:

Subj: Raw water bill for Industrial purpose for the period of 1/5/20 to 31/5/20 as per

S. No	Particulars	Reading on 01/5/20	Reading on 31/5/20	Difference per block meter	Qty in cft @ 0.028317	Unit	Rate	Amount
1	Supply of Raw water from J.S.W. to J.S.W Energy Ltd for Industrial purpose	102422222	102616229	894007	31550000	1000 cft	20	526181.73
Total								526181.73
Payable								5,26,181/-

(Payable) Five Lakh ninety six thousand one hundred eighty one only

PT: pay before 10-6-20 otherwise penalty should be cover @ per Interest Rate 18% - As per Instruction of Authority

1/6/20
जलिनगी अमिता
डी.आर.जी. एम.
बार्मेर-2000

Govt of Rajasthan
Jalini Gandhi Nakerparajogam

No. 17 - 21/4/20
To
The General Manager,
J.S.W Energy Ltd
Near Sant Paul School,
Jhalini Colony Barmer,
Rajasthan

Date:

Subj: Raw water bill for Industrial purpose for the period of 14/5/20 to 31/5/20 as per

S. No	Particulars	Reading on 14/5/20	Reading on 31/5/20	Difference per block meter	Qty in cft @ 0.028317	Unit	Rate	Amount
1	Supply of Raw water from J.S.W. to J.S.W Energy Ltd for Industrial purpose	104616222	105742450	1125522	39747218.36	1000 cft	250	99,36,804 = 74
Total								99,36,804 = 74
Payable								99,36,804/- only

(Ninety Nine Lakh thirty six thousand eight hundred five hundred five Rupees only)

PT: pay before 10-6-20 otherwise penalty should be cover @ per Interest Rate 18% - As per Instruction of Authority

1/6/20
जलिनगी अमिता
डी.आर.जी. एम.
बार्मेर-2000

Enclosed: Rate increase order



Government of Rajasthan
 Indra Gandhi nahar pariyojna
 Name of office— Assistant engineer sub division 3rd of 28th U/C tmc division I.g.n.p mohargarh
 Email id- xentmcdhrmgh@gmail.com

No. 760

Date 31/7/20

To:
 The General Manager
 J.S.W Energy Limited
 Near Saint paul school
 Indra colony, Barmer
 Rajasthan

Sub- Raw water bill for industrial purpose for the period 01-7-2020 to 30-7-2020

S.No.	Particular	Reading on 30-7-2020	Reading as on 30-7-2020	Differen ce as per flow meter	Qty. in CEF 0.028317	Unit	Rate	Amount
1	Supply of raw water from I.G.M.N. to J.S.W. for industrial purpose	10200572	10142816	101306	51203220	/1000 CFT	20	6,20,52,431 = 40 Total 6,20,52,431 = 40 Say Rs 6,20,52,431/- only

Rupees— One crore twenty nine lakh fifty two thousand four hundred thirty one only
 Please pay before 15-8-20 other wise 15% interest should be recover as per instruction of higher authorities

भारतीय न्यायपालिका
 न्याय 111 20 नं अणु 32 फा
 01.04.21. न्याय 111-20-32
 01/08/20

Government of Rajasthan
 Indra Gandhi nahar pariyojna
 Name of office— Assistant engineer sub division 3rd of 28th U/C tmc division I.g.n.p mohargarh
 Email id- xentmcdhrmgh@gmail.com

No. 803

Date

To:
 The General Manager
 J.S.W Energy Limited
 Near Saint paul school
 Indra colony, Barmer
 Rajasthan

Sub- Raw water bill for industrial purpose for the period 1-8-20 to 31-8-20 months

S.No.	Particular	Reading on 31/8/20	Reading as on 31/8/20	Differen ce as per flow meter	Qty. in CEF 0.028317	Unit	Rate	Amount
1	Supply of raw water from I.G.M.N. to J.S.W. for industrial purpose	10250572	11072576	12348	64768420	/1000 CFT	20	12,95,368 = 85 Total 12,95,368 = 85 Say Rs 12,95,368/- only

Rupees— Twelve lakh ninety five thousand three hundred sixty two only
 Please pay before 15/9/20 other wise 15% interest should be recover as per instruction of higher authorities

भारतीय न्यायपालिका
 न्याय 111 20 नं अणु 32 फा
 01.04.21. न्याय 111-20-32
 01/09/20

Government of Rajasthan
 Indra Gandhi nahar pariyojna
 Name of office— Assistant engineer sub division 3rd of 28th U/C tmc division I.g.n.p mohargarh
 Email id- xentmcdhrmgh@gmail.com

No. 906

Date

To:
 The General Manager
 J.S.W Energy Limited
 Near Saint paul school
 Indra colony, Barmer
 Rajasthan

Sub- Raw water bill for industrial purpose for the period September 2020 months

S.No.	Particular	Reading on 31/9/20	Reading as on 31/9/20	Differen ce as per flow meter	Qty. in CEF 0.028317	Unit	Rate	Amount
1	Supply of raw water from I.G.M.N. to J.S.W. for industrial purpose	110730703	10948488	172368	60869220	/1000 CFT	20	12,17,394 = 49 Total 12,17,394 = 49 Say Rs 12,17,394/- only

Rupees— Twelve Lakh seven thousand three hundred ninety four only
 Please pay before 10/10/20 other wise 15% interest should be recover as per instruction of higher authorities

[Signature]

भारतीय न्यायपालिका
 न्याय 111 20 नं अणु 32 फा
 01.04.21. न्याय 111-20-32
 01/10/20



Effluent Water Quality APR – 2020 to SEP – 2020

SN	Parameters	UoM	CPCB Limits	Results					
				April	May	June	July	Aug	Sept
1.	pH		6.5-8.5	6.85	6.85	6.98	6.83	7.10	7.25
2.	Biochemical Oxygen Demand (BOD) @ 27Deg C for 3 days	mg/L	< 30.0	25.00	22.63	21.73	21.80	22.10	22.78
3.	Chemical Oxygen Demand (COD)	mg/L	< 250	81.75	78.50	87.50	78.50	90.25	91.75
4.	Total Kjeldhal Nitrogen as NH3	mg/L	< 100	8.64	8.76	12.71	8.56	13.70	13.44
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	2.40	3.08	3.40	3.05	3.25	2.93
7.	Copper as Cu	mg/L	< 1	0.024	0.027	0.023	0.028	0.026	0.028
8.	Zinc as Zn	mg/L	< 1	0.31	0.32	0.32	0.36	0.39	0.40
9.	Iron as Fe	mg/L	< 1	0.42	0.45	0.51	0.48	0.59	0.57
10.	Total Suspended Solid	mg/L	< 100	39.75	43.50	45.25	43.75	48.25	48.50
11.	Ammonical Nitrogen as N	mg/L	< 50	4.89	5.19	5.46	5.21	5.65	5.48
12.	Nitrate Nitrogen	mg/L	< 10	2.29	2.48	2.62	2.43	2.73	2.59
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

COAL ANALYSIS REPORT**COAL ANALYSIS REPORT APR' 2020 – SEP' 2020**

	<u>AVERAGE</u>					
Month	Total Moisture	Volatile Matter	Ash	Fix Carbon	Gross Calorific Value	Sulfur
	%	%	%	%	Kcal/Kg	%
APRIL-2020	43.68	24.14	12.77	19.40	2871.46	0.89
MAY-2020	43.15	24.79	11.10	20.96	2925.81	0.89
JUNE-2020	43.91	24.83	11.26	19.99	2983.02	0.88
JULY-2020	43.61	24.75	11.79	19.86	2954.94	0.89
AUGUST-220	43.65	24.93	11.47	19.95	3015.02	0.85
SEPTEMBER-2020	41.78	25.27	11.49	21.46	3056.04	0.88

Mitra S.K. Private Limited

5/4, Shankar Colony
Old Fatehpura, Udaipur-313001(Rajasthan)
CIN: U51909WB1956PTC023037

T: 0294 2451926
F: 0294 2451926
E: udaipur@mitrask.co.in



Certificate No.: - MSK/UDR/JSW/2020-21/01

Date:- 05.05.2020

CERTIFICATE OF SAMPLING & ANALYSIS

This is to certify that we the under sign surveyor have carried out Conveyor Belt Coal sampling feeding to Unit # 1, 2, 3, 4, 5, 6, 7 & 8 Bunker and analysis for the same LIGNITE COAL sample and report as under

Date & Place of Attendance: At JSW Energy (Barmer) Ltd. Plant, Bhadresh from 01.04.2020 to 30.04.2020

Sampling & Analysis: Continuous sampling was done during feeding of Lignite Coal in Bunker. 24 Hrs. sample thus collected sample was reduced to prepare the Moisture and General analysis sample

COMPOSITE OF UNIT 1, 2, 3, 4, 5, 6, 7 & 8

Date	TM% (ARB)	ASH% (ARB)	VM% (ARB)	FC% (ARB)	GCV (Kcal/kg) (ARB)	Sulfur% (ARB)
01.04.20	44.10	12.41	23.97	19.52	2865	0.89
02.04.20	43.96	12.48	23.84	19.72	2862	0.84
03.04.20	43.62	13.30	24.18	18.90	2876	0.98
04.04.20	43.50	13.19	23.97	19.34	2879	0.86
05.04.20	43.57	13.07	25.31	18.05	2881	0.92
06.04.20	43.66	12.45	23.81	20.08	2878	0.91
07.04.20	43.69	12.49	25.64	18.18	2880	0.84
08.04.20	43.61	12.92	24.39	19.08	2875	0.89
09.04.20	43.70	12.47	24.65	19.18	2876	0.93
10.04.20	43.57	13.44	24.36	18.63	2879	0.79
11.04.20	43.80	12.60	24.49	19.10	2872	0.90
12.04.20	43.58	12.87	24.05	19.50	2873	0.85
13.04.20	43.38	12.53	23.47	20.61	2882	0.92
14.04.20	43.35	13.22	25.09	18.34	2886	0.90
15.04.20	43.35	13.14	23.50	20.01	2890	0.89
16.04.20	43.64	13.09	24.22	19.05	2868	0.86
17.04.20	43.61	12.90	24.27	19.22	2873	0.95
18.04.20	43.74	13.23	24.34	18.69	2864	0.86
19.04.20	43.89	12.82	23.56	19.73	2868	0.93
20.04.20	43.78	13.15	24.64	18.43	2860	0.88
21.04.20	43.80	12.76	23.70	19.75	2861	0.97

H.O.: Sharchi Centre (5th Floor), 74B, Acharya Jagadish Chandra Bose Road, Kolkata – 700016, West Bengal, India
T: 91 33 4014 3000 / 2265 0006 / 2265 0007 F: 91 33 2265 0008 E: info@mitrask.com W: www.mitrask.com



Certificate No.: - MSK/UDR/JSW/2020-21/01

Date:- 05.05.2020

Date	TM% (ARB)	ASH% (ARB)	VM% (ARB)	FC% (ARB)	GCV (Kcal/kg) (ARB)	Sulfur% (ARB)
22.04.20	43.67	13.08	23.96	19.29	2864	0.92
23.04.20	43.69	12.83	23.71	19.76	2866	0.83
24.04.20	43.86	12.79	23.43	19.92	2863	0.93
25.04.20	43.73	12.16	23.26	20.86	2870	0.92
26.04.20	43.62	11.41	25.38	19.58	2868	0.81
27.04.20	43.72	13.09	23.88	19.30	2869	0.90
28.04.20	43.76	12.10	23.50	20.63	2864	0.84
29.04.20	43.82	12.29	24.20	19.69	2866	0.86
30.04.20	43.75	12.71	24.42	19.12	2865	0.92

Note :-

1. These Samples were collected by Mitra S. K. Pvt. Ltd. from JSW Energy (Barmer) Ltd. Plant, Bhadresh

2. This report reflects our findings at the date and place of Inspection only and does not refer to any other matter.

Checked By:



Authorized Signatory

For Mitra S. K. Private Limited



Authorized Signatory

ANNEXURE-III

Mitra S.K. Private Limited

5/4, Shankar Colony
Old Fatehpura, Udaipur-313001(Rajasthan)
CIN: U51909WB1956PTC023037

T: 0294 2451926
F: 0294 2451926
E: udaipur@mitrask.co.in



Certificate No.: - MSK/UDR/JSW/2020-21/13

Date:- 05.06.2020

CERTIFICATE OF SAMPLING & ANALYSIS

This is to certify that we the under sign surveyor have carried out Conveyor Belt Coal sampling feeding to Unit # 1, 2, 3, 4, 5, 6, 7 & 8 Bunker and analysis for the same LIGNITE COAL sample and report as under

Date & Place of Attendance: At JSW Energy (Barmer) Ltd. Plant, Bhadresh from 01.05.2020 to 31.05.2020

Sampling & Analysis: Continuous sampling was done during feeding of Lignite Coal in Bunker. 24 Hrs. sample thus collected sample was reduced to prepare the Moisture and General analysis sample

COMPOSITE OF UNIT 1, 2, 3, 4, 5, 6, 7 & 8

Date	TM% (ARB)	ASH% (ARB)	VM% (ARB)	FC% (ARB)	GCV (Kcal/kg) (ARB)	Sulfur% (ARB)
01.05.20	42.20	12.81	23.71	21.29	2866	0.89
02.05.20	42.35	12.82	23.91	20.92	2863	0.91
03.05.20	42.39	13.24	24.01	20.36	2865	0.96
04.05.20	42.51	12.79	23.84	20.86	2866	0.78
05.05.20	42.77	12.53	23.52	21.18	2864	0.86
06.05.20	43.06	12.42	23.81	20.70	2865	0.88
07.05.20	43.05	12.81	23.83	20.31	2866	0.92
08.05.20	43.01	13.16	23.91	19.93	2864	0.91
09.05.20	43.23	11.65	23.23	21.89	2862	0.94
10.05.20	43.36	12.63	24.23	19.78	2865	0.81
11.05.20	43.45	11.84	23.25	21.46	2864	0.86
12.05.20	43.58	9.71	24.76	21.95	2870	0.87
13.05.20	43.74	10.41	25.65	20.21	2872	0.96
14.05.20	43.95	9.04	24.72	22.29	2874	0.90
15.05.20	44.22	10.69	24.51	20.58	2878	0.97
16.05.20	44.37	10.84	25.77	19.02	2877	0.88
17.05.20	44.48	10.71	25.12	19.69	2876	0.88
18.05.20	44.55	10.22	25.35	19.88	2880	0.92
19.05.20	44.72	10.16	25.92	19.20	2881	0.87
20.05.20	44.83	10.60	26.35	18.22	2883	0.88
21.05.20	43.83	10.31	25.43	20.43	2944	0.89

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Certificate No.: - MSK/UDR/JSW/2020-21/13

Date:- 05.06.2020

Date	TM% (ARB)	ASH% (ARB)	VM% (ARB)	FC% (ARB)	GCV (Kcal/kg) (ARB)	Sulfur% (ARB)
22.05.20	41.91	10.24	24.51	23.34	3050	0.91
23.05.20	41.97	11.37	26.21	20.45	3052	0.91
24.05.20	42.02	9.21	25.18	23.59	3055	0.91
25.05.20	42.37	10.90	25.77	20.95	3055	0.86
26.05.20	42.36	10.20	25.47	21.96	3058	0.95
27.05.20	42.42	9.44	25.04	23.10	3060	0.91
28.05.20	42.74	9.97	24.52	22.77	3056	0.87
29.05.20	42.62	9.42	26.41	21.54	3054	0.91
30.05.20	43.01	10.26	26.65	20.08	3038	0.89
31.05.20	43.12	8.70	25.69	22.49	3036	0.94

Note :-

1. These Samples were collected by Mitra S. K. Pvt. Ltd. from JSW Energy (Barmer) Ltd. Plant, Bhadresh

2. This report reflects our findings at the date and place of Inspection only and does not refer to any other matter.

Checked By:



Authorized Signatory

For Mitra S. K. Private Limited



Authorized Signatory

Mitra S.K. Private Limited

S/4, Shankar Colony
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Certificate No.: - MSK/UDR/JSW/2020-21/25

Date:- 06.07.2020

CERTIFICATE OF SAMPLING & ANALYSIS

This is to certify that we the under sign surveyor have carried out Conveyor Belt Coal sampling feeding to Unit # 1, 2, 3, 4, 5, 6, 7 & 8 Bunker and analysis for the same LIGNITE COAL sample and report as under

Date & Place of Attendance: At JSW Energy (Barmer) Ltd. Plant, Bhadresh from 01.06.2020 to 30.06.2020

Sampling & Analysis: Continuous sampling was done during feeding of Lignite Coal in Bunker. 24 Hrs. sample thus collected sample was reduced to prepare the Moisture and General analysis sample

COMPOSITE OF UNIT 1, 2, 3, 4, 5, 6, 7 & 8

Date	TM% (ARB)	ASH% (ARB)	VM% (ARB)	FC% (ARB)	GCV (Kcal/kg) (ARB)	Sulfur% (ARB)
01.06.20	43.12	10.61	25.29	20.98	3039	0.90
02.06.20	43.28	8.48	25.88	22.36	3037	0.96
03.06.20	43.37	9.56	26.21	20.87	3039	0.84
04.06.20	43.31	9.55	25.85	21.29	3038	0.91
05.06.20	42.88	9.69	25.54	21.89	3076	0.87
06.06.20	43.01	9.84	25.50	21.65	3077	0.88
07.06.20	43.18	9.60	25.28	21.93	3078	0.93
08.06.20	43.31	10.39	24.94	21.36	3075	0.94
09.06.20	43.13	11.01	25.83	20.03	3076	0.78
10.06.20	42.96	10.79	25.27	20.99	3078	0.90
11.06.20	42.82	11.68	24.98	20.52	3080	0.77
12.06.20	43.17	11.11	25.34	20.37	3059	0.87
13.06.20	42.89	11.61	24.58	20.92	3070	0.94
14.06.20	42.70	10.85	26.14	20.31	3075	1.01
15.06.20	43.41	11.66	24.41	20.52	3040	0.88
16.06.20	43.02	12.09	25.35	19.54	3047	0.89
17.06.20	42.59	11.94	24.19	21.28	3052	0.84
18.06.20	43.09	11.67	24.78	20.45	3017	0.87
19.06.20	43.57	12.31	24.02	20.10	2990	0.90
20.06.20	43.46	11.84	24.16	20.54	2980	0.83
21.06.20	44.10	12.14	23.97	19.79	2940	0.89

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Certificate No. : - MSK/UDR/JSW/2020-21/25

Date:- 06.07.2020

Date	TM% (ARB)	ASH% (ARB)	VM% (ARB)	FC% (ARB)	GCV (Kcal/kg) (ARB)	Sulfur% (ARB)
22.06.20	44.33	12.23	24.18	19.26	2926	0.82
23.06.20	44.59	12.59	22.88	19.94	2902	0.86
24.06.20	44.77	11.66	24.81	18.76	2890	0.92
25.06.20	45.76	12.48	24.21	17.55	2828	0.88
26.06.20	45.85	11.07	24.55	18.53	2811	0.91
27.06.20	46.15	11.56	24.29	17.99	2809	0.93
28.06.20	46.06	12.18	25.07	16.69	2815	0.87
29.06.20	46.30	12.32	24.21	17.18	2806	0.86
30.06.20	46.17	12.16	23.87	17.80	2808	0.90

Note :-

1. These Samples were collected by Mitra S. K. Pvt. Ltd. from JSW Energy (Barmer) Ltd. Plant, Bhadresh

2. This report reflects our findings at the date and place of inspection only and does not refer to any other matter.

Checked By:



Authorized Signatory

For Mitra S. K. Private Limited



Authorized Signatory



ANNEXURE-III

Mitra S.K. Private Limited

5/4, Shankar Colony
Old Fatehpura, Udaipur-313001(Rajasthan)
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Certificate No. : - MSK/UDR/JSW/2020-21/37

Date:- 04.08.2020

CERTIFICATE OF SAMPLING & ANALYSIS

This is to certify that we the under sign surveyor have carried out Conveyor Belt Coal sampling feeding to Unit # 1, 2, 3, 4, 5, 6, 7 & 8 Bunker and analysis for the same LIGNITE COAL sample and report as under

Date & Place of Attendance: At JSW Energy (Barmer) Ltd. Plant, Bhadresh from 01.07.2020 to 31.07.2020

Sampling & Analysis: Continuous sampling was done during feeding of Lignite Coal in Bunker. 24 Hrs. sample thus collected sample was reduced to prepare the Moisture and General analysis sample.

COMPOSITE OF UNIT 1, 2, 3, 4, 5, 6, 7 & 8

Date	TM% (ARB)	ASH% (ARB)	VM% (ARB)	FC% (ARB)	GCV (Kcal/kg) (ARB)	Sulfur% (ARB)
01.07.20	46.04	11.33	24.84	17.79	2812	0.87
02.07.20	44.50	12.07	23.91	19.53	2895	0.81
03.07.20	44.30	11.39	25.00	19.31	2902	0.88
04.07.20	44.08	12.63	24.13	19.15	2920	0.89
05.07.20	43.68	12.65	24.38	19.29	2935	0.93
07.07.20	43.64	11.34	23.90	21.11	2931	0.94
07.07.20	43.83	13.11	24.23	18.83	2922	0.88
08.07.20	43.55	11.93	26.31	18.22	2929	0.98
09.07.20	43.73	12.40	24.27	19.60	2935	0.90
10.07.20	43.75	12.36	25.18	18.72	2930	0.93
11.07.20	43.60	12.01	24.76	19.63	2937	0.89
12.07.20	43.73	11.19	24.35	20.73	2932	0.95
13.07.20	43.77	11.62	24.97	19.64	2938	0.95
14.07.20	44.06	11.32	25.37	19.24	2931	0.90
15.07.20	44.02	11.32	24.86	19.80	2936	0.78
16.07.20	44.21	11.46	26.09	18.24	2930	0.89
17.07.20	44.26	11.48	25.43	18.83	2935	0.76
18.07.20	44.13	12.09	24.43	19.35	2941	0.85
19.07.20	43.99	11.81	25.27	18.94	2945	0.90
20.07.20	43.07	11.13	24.97	20.82	2985	0.82
21.07.20	42.73	11.60	24.49	21.17	3022	0.89

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Part of O.P.Jindal Group

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Certificate No.: - MSK/UDR/JSW/2020-21/37

Date:- 04.08.2020

Date	TM% (ARB)	ASH% (ARB)	VM% (ARB)	FC% (ARB)	GCV (Kcal/kg) (ARB)	Sulfur% (ARB)
22.07.20	42.87	11.76	24.96	20.41	3015	0.83
23.07.20	42.68	11.83	23.83	21.66	3023	0.91
24.07.20	42.72	11.22	25.36	20.70	3016	0.92
25.07.20	42.72	11.61	23.77	21.90	3022	0.89
26.07.20	42.94	11.46	24.39	21.21	3017	0.89
27.07.20	42.68	11.69	24.88	20.76	3023	0.90
28.07.20	42.50	11.28	24.57	21.65	3029	0.89
29.07.20	42.65	11.86	24.39	21.11	3020	0.86
30.07.20	42.80	11.94	25.07	20.19	3016	0.89
31.07.20	42.96	12.13	24.24	20.67	3021	0.91

Note :-

1. These Samples were collected by Mitra S. K. Pvt. Ltd. from JSW Energy (Barmer) Ltd. Plant, Bhadresh
2. This report reflects our findings at the date and place of Inspection only and does not refer to any other matter.

Checked By:



Authorized Signatory

For Mitra S. K. Private Limited



Authorized Signatory

Mitra S.K. Private Limited

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Certificate No. : - MSK/UDR/JSW/2020-21/49

Date:- 05.09.2020

CERTIFICATE OF SAMPLING & ANALYSIS

This is to certify that we the under sign surveyor have carried out Conveyor Belt Coal sampling feeding to Unit # 1, 2, 3, 4, 5, 6, 7 & 8 Bunker and analysis for the same LIGNITE COAL sample and report as under

Date & Place of Attendance: At JSW Energy (Barmer) Ltd. Plant, Bhadresh from 01.08.2020 to 31.08.2020

Sampling & Analysis: Continuous sampling was done during feeding of Lignite Coal in Bunker. 24 Hrs. sample thus collected sample was reduced to prepare the Moisture and General analysis sample

COMPOSITE OF UNIT 1, 2, 3, 4, 5, 6, 7 & 8

Date	TM% (ARB)	ASH% (ARB)	VM% (ARB)	FC% (ARB)	GCV (Kcal/kg) (ARB)	Sulfur% (ARB)
01.08.20	44.00	11.75	24.24	20.01	3015	0.88
02.08.20	44.10	11.48	23.74	20.68	3019	0.84
03.08.20	44.15	11.83	24.18	19.84	3014	0.86
04.08.20	44.40	12.21	23.73	19.66	2990	0.89
05.08.20	44.90	11.86	24.22	19.02	2950	0.92
06.08.20	45.05	11.59	23.53	19.84	2941	0.86
07.08.20	45.03	12.08	24.45	18.44	2945	0.78
08.08.20	44.78	11.51	25.34	18.37	2950	0.83
09.08.20	44.81	11.85	25.69	17.66	2946	0.85
10.08.20	44.77	10.93	26.37	17.93	2948	0.84
11.08.20	44.91	12.08	24.74	18.27	2935	0.78
12.08.20	45.55	9.22	25.55	19.68	2930	0.87
13.08.20	45.22	10.54	25.30	18.94	2937	0.90
14.08.20	45.33	11.79	25.11	17.77	2932	0.85
15.08.20	45.06	11.79	25.79	17.36	2940	0.79
16.08.20	44.80	12.04	24.93	18.23	2936	0.91
17.08.20	44.39	11.70	23.89	20.02	2956	0.86
18.08.20	44.48	11.78	25.12	18.62	2965	0.87
19.08.20	44.50	11.37	25.31	18.82	2974	0.83
20.08.20	43.88	11.88	24.16	20.08	3006	0.72
21.08.20	43.92	11.35	24.37	20.36	3009	0.84

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Certificate No.: - MSK/UDR/JSW/2020-21/49

Date:- 05.09.2020

Date	TM% (ARB)	ASH% (ARB)	VM% (ARB)	FC% (ARB)	GCV (Kcal/kg) (ARB)	Sulfur% (ARB)
22.08.20	42.86	10.98	25.47	20.69	3065	0.83
23.08.20	42.25	11.07	25.17	21.50	3095	0.89
24.08.20	42.01	10.88	26.28	20.83	3098	0.82
25.08.20	40.65	11.09	25.48	22.78	3130	0.84
26.08.20	41.20	10.99	24.78	23.03	3135	0.81
27.08.20	41.86	11.61	25.06	21.47	3131	0.92
28.08.20	41.40	11.05	24.71	22.84	3155	0.86
29.08.20	41.01	11.75	26.23	21.01	3173	0.86
30.08.20	40.10	11.87	24.33	23.70	3170	0.89
31.08.20	39.61	11.29	25.55	23.55	3177	0.94

Note :-

1. These Samples were collected by Mitra S. K. Pvt. Ltd. from JSW Energy (Barmer) Ltd. Plant, Bhadresh

2. This report reflects our findings at the date and place of inspection only and does not refer to any other matter.

Checked By:



Authorized Signatory

For Mitra S. K. Private Limited



Authorized Signatory

ANNEXURE-III

Mitra S.K. Private Limited

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Certificate No.: - MSK/UDR/JSW/2020-21/61

Date:- 05.10.2020

CERTIFICATE OF SAMPLING & ANALYSIS

This is to certify that we the under sign surveyor have carried out Conveyor Belt Coal sampling feeding to Unit # 1, 2, 3, 4, 5, 6, 7 & 8 Bunker and analysis for the same LIGNITE COAL sample and report as under

Date & Place of Attendance: At JSW Energy (Barmer) Ltd. Plant, Bhadresh from 01.09.2020 to 30.09.2020

Sampling & Analysis: Continuous sampling was done during feeding of Lignite Coal in Bunker: 24 Hrs: sample thus collected sample was reduced to prepare the Moisture and General analysis sample

COMPOSITE OF UNIT 1, 2, 3, 4, 5, 6, 7 & 8

Date	TM% (ARB)	ASH% (ARB)	VM% (ARB)	FC% (ARB)	GCV (Kcal/kg) (ARB)	Sulfur% (ARB)
01.09.20	40.19	11.95	24.14	23.72	3147	0.87
02.09.20	39.81	11.37	24.90	23.92	3172	0.89
03.09.20	40.04	11.33	24.73	23.90	3174	0.80
04.09.20	39.82	11.36	24.88	23.94	3170	0.81
05.09.20	40.89	11.48	25.61	22.02	3110	0.82
06.09.20	41.37	10.71	25.55	22.37	3088	0.82
07.09.20	41.73	11.57	25.86	20.84	3045	0.80
08.09.20	41.38	11.16	25.39	22.07	3066	0.84
09.09.20	41.59	11.25	25.43	21.73	3060	0.78
10.09.20	41.51	11.95	24.81	21.74	3069	0.85
11.09.20	41.46	11.59	24.65	22.30	3064	0.84
12.09.20	41.77	11.70	25.90	20.63	3061	0.94
13.09.20	41.53	12.19	25.07	21.21	3065	0.99
14.09.20	41.45	11.36	24.98	22.21	3070	0.89
15.09.20	41.51	11.76	24.99	21.75	3062	0.88
16.09.20	41.83	11.75	26.08	20.35	3050	0.95
17.09.20	41.88	12.04	25.28	20.80	3046	0.81
18.09.20	41.77	11.44	25.16	21.63	3041	0.92
19.09.20	41.89	11.33	25.57	21.21	3045	0.92
20.09.20	41.88	11.88	26.62	19.61	3043	0.91
21.09.20	42.34	11.89	25.73	20.04	3034	0.97

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Certificate No.: - MSK/UDR/JSW/2020-21/61

Date:- 05.10.2020

Date	TM% (ARB)	ASH% (ARB)	VM% (ARB)	FC% (ARB)	GCV (Kcal/kg) (ARB)	Sulfur% (ARB)
22.09.20	42.39	10.52	25.53	21.56	3037	0.88
23.09.20	42.39	11.54	25.24	20.84	3039	0.93
24.09.20	42.00	11.44	24.93	21.62	3036	0.91
25.09.20	42.30	10.73	25.11	21.86	3040	0.79
26.09.20	42.71	10.91	24.68	21.70	3002	0.90
27.09.20	43.02	11.91	26.64	18.42	3005	0.98
28.09.20	43.82	11.31	24.55	20.32	2940	0.81
29.09.20	43.54	11.63	24.87	19.96	2960	0.88
30.09.20	42.91	11.42	24.75	20.92	2980	0.90

Note :-

1. These Samples were collected by Mitra S. K. Pvt. Ltd. from JSW Energy (Barmer) Ltd. Plant, Bhadresh

2. This report reflects our findings at the date and place of Inspection only and does not refer to any other matter.

Checked By:



Authorized Signatory

For Mitra S. K. Private Limited



Authorized Signatory

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

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

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-IV

STACK EMISSION MONITORING RESULTS APR – 2020 to MAR – 2020

Month: Apr, 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	16.0	16.5	18.4	14.9	15.6	17.6	16.4
2	Flow	Nm ³ /Sec	133	128	130	147	125	129	141	133
3	Stack Exit Temp.	°C	132	137	148	153	123	124	132	142
4	Particulate Matter	mg/Nm ³	72	52	57	67	48	75	58	61
5	Sulphur Dioxide	mg/Nm ³	462	435	453	422	460	461	408	437
6	Oxides of Nitrogen	mg/Nm ³	96	102	93	63	142	87	81	92

Month: May, 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	15.8	16.2	17.9	13.2	15.9	16.9	16.1
2	Flow	Nm ³ /Sec	136	130	131	148	126	128	141	133
3	Stack Exit Temp.	°C	134	138	149	152	123	125	133	145
4	Particulate Matter	mg/Nm ³	47.2	52	48.1	43.1	52.1	49.2	47.5	54.9
5	Sulphur Dioxide	mg/Nm ³	355	516	521	495	361	384	492	475
6	Oxides of Nitrogen	mg/Nm ³	143	154	185	211	159	158	179	155

Month: Jun, 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	16.5	15.2	17.6	16.2	13.7	15.6	16.4	15.6
2	Flow	Nm ³ /Sec	136	130	133	149	128	130	143	135
3	Stack Exit Temp.	°C	138	137	154	155	126	127	136	145
4	Particulate Matter	mg/Nm ³	48.2	51.2	47.3	46.3	49.8	48.2	46.4	52.4
5	Sulphur Dioxide	mg/Nm ³	362	524	518	483	365	386	484	470
6	Oxides of Nitrogen	mg/Nm ³	143	151	181	224	161	163	176	158

ANNEXURE-IV

Month: Jul' 2020

SN	Parameters	UOM	Unit-I	Unit-II	Unit-III	Unit-IV	Unit-V	Unit-VI	Unit-VII	Unit-VIII
1	Average Velocity	m/Sec	17.8	17.9	18.2	17.7	17.2	17.9	17.4	17.8
2	Flow	Nm ³ /Sec	134	133	134	149	139	138	139	139
3	Stack Exit Temp.	°C	137	139	158	155	130	130	136	147
4	Particulate Matter	mg/Nm ³	48	51	52	48	50	49	48	50
5	Sulphur Dioxide	mg/Nm ³	458	485	429	489	471	491	484	478
6	Oxides of Nitrogen	mg/Nm ³	182	193	191	192	185	194	189	188

Month: Aug' 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	17.3	17.4	17.2	17.3	17.9	17.0	17.1
2	Flow	Nm ³ /Sec	133	132	132	133	135	136	138	136
3	Stack Exit Temp.	°C	138	137	152	151	127	128	131	142
4	Particulate Matter	mg/Nm ³	44	47	47	43	46	41	45	46
5	Sulphur Dioxide	mg/Nm ³	441	476	418	481	461	464	479	465
6	Oxides of Nitrogen	mg/Nm ³	172	179	182	181	174	176	180	169

Month: Sep' 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	17.5	17.8	17.1	17.4	17.4	17.7	17.4	17.0
2	Flow	Nm ³ /Sec	135	133	132	132	134	136	137	136
3	Stack Exit Temp.	°C	140	138	152	149	127	129	133	142
4	Particulate Matter	mg/Nm ³	42.8	45.7	47	43	46	43.2	44	45
5	Sulphur Dioxide	mg/Nm ³	449	479	418	478	462	463	480	463
6	Oxides of Nitrogen	mg/Nm ³	184	175	182	183	175	178	172	172

**Energy (Barmer) Limited**

(Formerly : Raj WestPower Limited)

Village & Post : Bhadresh, Post Box No. 30,

Distt : Barmer – 344001 (Rajasthan)

CIN : U31102MH1996PLC185098

Phone : +91 2982 229100

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Website : www.jsw.in**ANNEXURE-V****Ministry of Environment, Forest and Climate Change
Monthly Abstract of Ash Generation and Utilisation**

(For the Period from April, 2020 to September, 2020)

Name of Thermal Power Plant: JSW Energy (Barmer) Limited - Jalipa-Kapurdi Thermal Plant Lignite Coal Base Thermal Plant

Sl. No.	ASH GENERATION AND UTILIZATION						Mode of Ash Utilization and Utilization in Each Mode (IN LAKH TON)					
	Month	Coal consumed (Lakh Ton)	Lime Coal Consumed (Lakh Ton)	Ash content of coal (%)	Ash Generation (Lakh Ton)	Ash Utilization (Lakh Ton)	% age Utilization	In making of Fly Ash based/ Bricks/ Blocks/ Tiles etc. (Lakh Ton)	In manufacture of Portland Pozzolana Cement (Lakh Ton)	In Mine filling (Lakh Ton)	In Agriculture/ Waste land Development (Lakh Ton)	Others
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	APRIL-20	4.3791	0.0901	12.77	0.63844	0.69152	108.31	0.01387	0.03771	0.63995		
2	MAY-20	4.8946	0.1324	11.10	0.65974	0.62839	95.25	0.12210	0.50628	0.00000		
3	JUNE-20	5.2177	0.1538	11.26	0.72304	0.77678	107.43	0.16132	0.61547	0.00000		
4	JULY-20	5.3485	0.0457	11.79	0.67084	0.57973	86.42	0.07554	0.41867	0.08552		
5	AUGUST-20	5.0802	0.1595	11.47	0.72303	0.74925	103.63	0.14196	0.56553	0.04177		
6	SEP-20	5.8233	0.2031	11.49	0.84774	0.96922	114.33	0.22717	0.74205	0.00000		
	TOTAL	30.7435	0.7846	11.62	4.26284	4.39490	103.10	0.74196	2.88570	0.76724	0.000	0.000



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Regd. Office : JSW Energy (BARMER) Limited, JSW Center, BKC Complex, Bandra (E), Mumbai – 400051

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

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Website : www.jsw.in**ANNEXURE-VI****Noise Level Monitoring- Apr' 2020 – Sep, 2020**

S N	Month Noise Levels dB (A)	April		May		June		July		August		September	
		Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
1	MAIN GATE INSIDE	71.2	62.8	73.3	60.2	74.0	59.3	72.1	60.8	72.7	65.2	73.2	65.3
2	COOLING TOWER END	73.1	66.4	73.9	65.1	73.6	66.9	71.9	60.4	70.1	62.1	71.4	63.2
3	NORTH WEST CORNER	73.4	63.2	72.9	64.8	71.8	66.3	71.2	60.7	72.8	63.2	71.7	64.2
4	Bhadresh Village	52.7	42.7	53.8	44.1	54.0	43.1	53.7	41.2	52.8	41.9	51.4	42.4
5	Isharpura Village	54.4	44.8	53.7	43.1	53.7	42.6	51.8	40.1	52.5	42.9	54.2	45.2
6	Chuli Village	54.8	43.9	54.0	43.4	52.1	43.4	54.0	43.6	52.9	43.2	51.4	42.6



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ANNEXURE-VII

Ambient Air Quality Data- APR – 2020 to SEP – 2020

Month – Apr' 2020

SN	Location (Avg.24 Hrs.)	PM-10 ($\mu\text{g}/\text{m}^3$)	SO2 ($\mu\text{g}/\text{m}^3$)	NO2 ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	PM-2.5 ($\mu\text{g}/\text{m}^3$)
1	Reservoir Area	32.3	12.5	21.3	1.4	9.7
2	Main Gate	44.9	5.6	15.0	0.8	29.7
3	Ash pond	21.2	14.6	19.4	1.8	12.3
4	Bhardesh Village	77.7	17.4	29.5	0.2	40.2
5	Ishrpura Village	76.0	15.3	24.9	0.3	37.8
6	Chuli Village	79.1	15.4	27.7	0.3	38.6

Month – May' 2020

SN	Location (Avg.24 Hrs.)	PM-10 ($\mu\text{g}/\text{m}^3$)	SO2 ($\mu\text{g}/\text{m}^3$)	NO2 ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	PM-2.5 ($\mu\text{g}/\text{m}^3$)
1	Reservoir Area	32.1	18.2	20.8	1.0	9.7
2	Main Gate	45.8	5.7	15.6	1.2	30.3
3	Ash pond	22.6	17.2	18.7	1.5	18.6
4	Bhardesh Village	76.2	16.2	30.7	0.2	40.0
5	Ishrpura Village	78.1	13.6	25.8	0.3	38.3
6	Chuli Village	78.2	16.0	28.4	0.3	38.4

Month – Jun' 2020

SN	Location (Avg.24 Hrs.)	PM-10 ($\mu\text{g}/\text{m}^3$)	SO2 ($\mu\text{g}/\text{m}^3$)	NO2 ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	PM-2.5 ($\mu\text{g}/\text{m}^3$)
1	Reservoir Area	32.0	19.0	24.0	1.3	9.7
2	Main Gate	51.0	6.0	16.0	1.6	32.0
3	Ash pond	24.0	19.0	20.0	1.7	15.0
4	Bhardesh Village	78.0	14.0	25.5	0.3	38.3
5	Ishrpura Village	76.4	13.6	25.8	0.3	38.3
6	Chuli Village	75.8	16.0	28.4	0.3	38.4

ANNEXURE-VII

Month – Jul' 2020

SN	Location (Avg.24 Hrs.)	PM-10 ($\mu\text{g}/\text{m}^3$)	SO2 ($\mu\text{g}/\text{m}^3$)	NO2 ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	PM-2.5 ($\mu\text{g}/\text{m}^3$)
1	Reservoir Area	31.0	13.0	21.0	1.9	8.8
2	Main Gate	44.0	5.0	16.0	1.9	30.0
3	Ash pond	22.0	20.0	21.0	1.5	14.0
4	Bhardesh Village	74.4	17.6	30.8	0.2	39.7
5	Ishrpura Village	75.5	13.6	25.8	0.3	38.3
6	Chuli Village	71.4	16.0	28.4	0.3	38.4

Month – Aug' 2020

SN	Location (Avg.24 Hrs.)	PM-10 ($\mu\text{g}/\text{m}^3$)	SO2 ($\mu\text{g}/\text{m}^3$)	NO2 ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	PM-2.5 ($\mu\text{g}/\text{m}^3$)
1	Reservoir Area	29.0	21.0	13.0	1.6	8.7
2	Main Gate	43.0	N/W	5.0	1.5	27.0
3	Ash pond	22.0	18.0	14.0	1.7	12.0
4	Bhardesh Village	68.5	15.2	26.0	0.2	33.3
5	Ishrpura Village	71.3	14.4	26.3	0.3	33.6
6	Chuli Village	65.1	11.3	25.4	0.3	29.7

Month – Sep' 2020

SN	Location (Avg.24 Hrs.)	PM-10 ($\mu\text{g}/\text{m}^3$)	SO2 ($\mu\text{g}/\text{m}^3$)	NO2 ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	PM-2.5 ($\mu\text{g}/\text{m}^3$)
1	Reservoir Area	31.0	27.0	13.0	0.8	8.7
2	Main Gate	44.0	N/W	5.0	0.9	25.0
3	Ash pond	21.0	21.0	7.0	1.7	12.0
4	Bhardesh Village	66.4	15.2	24.3	0.2	33.2
5	Ishrpura Village	66.4	14.0	25.6	0.3	31.6
6	Chuli Village	64.6	11.8	26.2	0.3	27.9



Energy (Barmer) Limited

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Website : www.jsw.in

Ref: JSWE(B)/ENV/20-21/014

Date: 23.06.2020

To,
Ministry of Environment & Forests
Indira Paryavaran Bhavan,
All Ganj, Jorbagh Road,
New Delhi, Delhi 110003

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

Dear Sir,

With reference to your letter No. J-13011/58/2006-IA-II (T) dated 20.07.2007 and 19.11.2009, and followed by Letter no. IV/ENV/R/Th-39/679/08/273, 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 Project activity at proposed site incorporating the conditions stipulated in this environmental clearance.

Thanking you.

For JSW ENERGY (BARMER) Ltd.

Vinod Jindal
AGM (Operation, Environment & Chemistry)

Enclosure:

- | | |
|---------------------------------|----------------|
| 1. Compliance Report | |
| 2. Water consumption Data | -Annexure I |
| 3. Effluent Water Data | -Annexure II |
| 4. Coal Analysis Data | -Annexure III |
| 5. CEMS & Stack Monitoring DATA | -Annexure IV |
| 6. Ash Utilization Data | -Annexure V |
| 7. Noise Monitoring | -Annexure VI |
| 8. AAQ Monitoring Data | -Annexure VII |
| 9. Last Compliance Report | -Annexure VIII |



C.C.
The Director – MOEF, Lucknow
The Member Secretary – Central Pollution Control Board, Delhi
The Member Secretary – RSPCB, Jaipur
The Regional Officer – RSPCB, Balotra.



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