

**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, 2019 – SEP, 2019**

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. <b>ANNEXURE-I</b>
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 <b>ETP (Aeration – Clarifier – Filtration – Ultra Filtration – Reverse Osmosis)</b> 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 – <b>Annexure – II</b>
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. <b>ANNEXURE-III</b>
vi	<i>Space provision for FGD shall be made, if required at a later stage.</i>	The Project is based on Circulating Fluidized Base Combustion technology for fuel firing and involves injection of lime, which absorbs Sulphur.  As such, there is no requirement for FGD. However space provision has been made for FGD.

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, SO<sub>2</sub>, NO<sub>x</sub> &amp; CO to be within prescribed levels. <b>ANNEXURE-IV</b></p>
viii	<p><i>Low NO<sub>x</sub> burners shall be installed.</i></p>	<p>The boiler is designed on Circulating Fluidized Bed Combustion, system attains to very low NO<sub>x</sub> 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/Nm<sup>3</sup>.</i></p>	<p>High efficiency ESPs are installed to maintain PM emission levels at less than 100 mg/Nm<sup>3</sup>.</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 &amp; 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. <b>Ash Utilisation data ANNEXURE-V</b></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>
xiii	<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>
xiv	<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>

<b>xv</b>	<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>Before commencing the civil work on the stacks, necessary clearance had obtained from the Indian Air Force.</p>
<b>xvi</b>	<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>The Temple is outside the plant premises.</p> <p>In consultation with the local population, suitable developmental measures such as supply of lighting and electricity have been taken for this temple.</p>
<b>xvii</b>	<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>There is hardly any ground water within 20 km of the Project area.</p>
<b>xviii</b>	<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>The machinery has been designed to limit the noise levels to 75 dB (A). All personnel working in the Plant have PPEs issued. <b>ANNEXURE-VI</b></p>
<b>xix</b>	<i>A greenbelt shall be developed all around the plant boundary and ash pond covering an area of 154 ha.</i>	<p>A total of 154 Ha area brought under green belt developed as designated greenbelt area.</p> <p>Mortality replacement work is continuous process and is being carried.</p>
<b>xx</b>	<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>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. <b>ANNEXURE-VII</b></p>
<b>xxi</b>	<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>Regular sprinkling of water is being practiced to minimise the fugitive dust emissions.</p>

<b>xxii</b>	<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 <a href="http://envfor.nic.in">http://envfor.nic.in</a>.</i></p>	<p>Published in Rajasthan Patrika Jodhpur Edition, Dt 19/08/2007</p>
<b>xxiii</b>	<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>
<b>xxiv</b>	<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 – <b>Annexure VIII</b></p>
<b>xxv</b>	<p><i>Regional Office of the Ministry of Environment &amp; 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>
<b>xxvi</b>	<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>
<b>xxvii</b>	<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>

**ANNEXURE-I****IGNP WATER BILL****APR, 2019 – SEP, 2019**

<b>Month</b>	<b>Cuft/Month</b>	<b>Cum/Month</b>	<b>Cuft/day</b>	<b>Cusecs – Day</b>
April	55223082.00	1563752.01	1840769.40	21.31
May	63231945.47	1790539.00	2039740.18	24.40
June	52574602.00	1488755.00	1752486.73	20.28
July	61863686.00	1751794.00	1995602.77	23.87
August	50667796.72	1434760.00	1634445.06	19.55
September	44818590.00	1269128.01	1493953.00	17.29

श्रीलक्ष्मी - सरदार  
इंटरनेशनल प्राइवेट लिमिटेड

क्रमांक - 58/2019 दिनांक -

To, श्रीमान मन-लक्ष्मी सरदार  
J.S.W. Energy Limited  
सि.ओ.पल स्कूल के पास  
बार्मेर राजस्थान

Subs Raw water Bill For Industrial purpose for the month-11/19

S. No	Particular	Reading on 30/11/19	Reading on 31/1/19	Difference of flow meter	CFR of P.D. Meter 0.02571	Unit	Rate	Amount
1	Supply of water for J.S.W. Energy Limited From RD 1489.250 I.C.M.H	85611456	84047704	1563752	5522382	1000 CFT	20	1104461.64
Total								1104461.64
Payable								1104461.64
Previous bill due amount								1730443.00
Total Amount upto due date								2834904.64
After due date amount								3345195.00

Due date - 10/5/19

ज.स.व. एनर्जी लिमिटेड  
 एम.ओ.पल स्कूल के पास  
 बार्मेर राजस्थान  
 फोन नंबर 24858

Govt of Rajasthan  
Jalrahonmali, Jaipur

क्रमांक - 118/11/19 दिनांक -

To, The General Manager  
J.S.W. Energy Limited  
Near Sut-pal School  
Barmar, Rajasthan

Subs Raw water Bill For Industrial purpose for the month-5/19

S. No	Particular	Reading on 31/1/19	Reading on 30/1/19	Difference of flow meter	CFR of P.D. Meter 0.02571	Unit	Rate	Amount
1	Supply of water for J.S.W. Energy Limited From RD 1489.250 I.C.M.H	87401935	85611456	1790539	63219157	1000 CFT	20	1264638.90
Total								1264638.90
Payable								1264638.90

CR Request - Twelve Lakh Sixty Four thousand Six Hundred thirty nine only

Due date - 10/6/19

After due date - 1492 274.02

Last month Bill due amount - 1104462

upto date payment payable = 1303265.00

After due date - 2795539.02

राजस्थान सरकार  
 जलराज्य विभाग  
 जल विभाग  
 बार्मेर राजस्थान  
 फोन नंबर 24858

गजपवन - बरमर  
इन्दिरा गांधी नहर परियोजना

हमारा - 156  
17-2019 दिनांक

श्रीमान जनरल मैनेजर  
J.S.W पावर लिमिटेड,  
इन्दिरा. कॉलोनी  
सेंट पॉल स्कूल के पास  
काजमेर बाजार

विषय: पानी का बिल औद्योगिक उपयोग के माह - 6/2019

क्र. सं.	विवरण	रिडिंग 30/6/19 की	रिडिंग 31-7-19 की	जनरल फ्लोमीटर अगुसाट	CFT फ्लोमीटर अगुसाट	इकाई	दर	राशि
1	Supply of Raw water For J.S.W Power Ltd. From RD 1439-250 IGMN For Industrial Purpose	88890710	88401955	1489755	52574602	/1000 CFT	20	1051492=04
								उकाट 1051492=04
								Say. Rs. 1051492/-

उत्तर के रूप में: इस लाख रकम का हफ्ता पार हो जाने के साथ  
इस माह का बिल - 1051492=00  
पिछला बिल का L - 1691077 = 18  
योग - 2742569.18

निपत मुगताग तिथी - 10/7/2019  
निपत तिथी तक मुगताग - 2742569.18  
विलम्ब शुल्क @ 18% = 493662.45  
निपत तिथी पर्यन्त मुगताग - 3236231=63

Govt Of Rajasthan  
Indira Gandhi Nahar Pariyojna

To  
The General Manager J.S.W Energy Ltd  
near saint paul school indira colony barmer

Sub= Raw water bill for industrial purpose for the month 07/2019

S No	Particular	Reading on 31/07/2019	Reading on 30/06/2019	Difference as per flow meter	cft as per diffence	Unit	Rate	Amount	
1	Supply of raw water for industrial purpose to JSW energy ltd from RD 1439.250 of IGMN	90642504	88890710	1751794	61863686	/1000 cft	20	1237273.7	
								total	1237273.7
								say rs	1237274

Rupees = Twelve lakh thirty seven thousand two hundred seventy four only

प्रमाणित  
इस बिल का 20 का बिल मा. लि.  
इ. ए. सी. लि. इ. ए. सी.  
प्रो. ए. ए.

Bill - performance

Date: 2/9/19

Raw water Bill For Industrial purpose month of Aug/2019 used by JSW power Energy Ltd,

S.No	Particular	Reading on 31/7/2019	Reading on 31/8/19	Difference as per flow meter	cf as per differe	Unit	Rate	Amount
1	Supply of Raw water for Industrial purpose to JSW Energy Ltd from R.D. 1439.250 of I.G.M.N	90642524	92079264	1434760	506572594	1000 cft	20	1013355293
Total								1013355293
Payable								10133561

C/Rot Ten Lakh thirty seven thousand three hundred fifty six only

इस माह का बिल 1013355293 = 00  
 पिछला बिल 40379770 = 00  
 5051353 = 00  
 निपल सुप्लाय दिखी - 10/9/19  
 निपल तिथी तक सुप्लाय - 5051353 = 00  
 बिल का अंक 187. 909239 = 94  
 निपल तिथी पर सुप्लाय  
 5960572 = 94

बिल का अंक  
 1013355293  
 10133561

Nol - 360 / 3.8.19

To: The General Manager JSW Energy Ltd  
near saint paul school indra colony Barmer

Sub: Raw water bill for industrial purpose for the month 08/2019

S.No	Particular	Reading on 31/08/2019	Reading on 30/09/2019	Difference as per flow meter	cf as per differe	Unit	Rate	Amount
1	Supply of Raw water for Industrial purpose to JSW energy limited From R.D. 1439.250 of I.G.M.N	92077264	93346392	1269128	44818590	1000 cft	20	896372
Total								896372
Payable								896372

Rupees = Eight lakh Ninety six thousand three hundred Seventy two only

92077264  
 93346392  
 1269128  
 44818590  
 896372

**ANNEXURE-II**
**Effluent Water Quality APR, 2019 – SEP, 2019**

SN	Parameters	UoM	CPCB Limits	Results					
				April	May	June	July	Aug	Sept
1.	pH		<b>6.5-8.5</b>	6.95	7.03	7.1	7.25	7.3	7.0
2.	Biochemical Oxygen Demand (BOD) @ 27Deg C for 3 days	mg/L	<b>&lt; 30.0</b>	22.5	23	23.5	23.5	23.75	22.5
3.	Chemical Oxygen Demand (COD)	mg/L	<b>&lt; 250</b>	76	73	74.75	79.75	70.75	74.0
4.	Total Kjeldhal Nitrogen as NH3	mg/L	<b>&lt; 100</b>	8.64	8.6	8.9	8.45	7.8	8.65
5.	Free Available Chlorine	mg/L	<b>&lt; 0.5</b>	BDL<0.18	BDL<0.18	BDL<0.18	BDL<0.18	BDL<0.18	BDL<0.18
6.	Oil & Grease	mg/L	<b>&lt; 20</b>	2.2	2.47	1.925	2.95	2.83	2.1
7.	Copper as Cu	mg/L	<b>&lt; 1</b>	0.022	.0155	.014	0.0163	0.0123	0.014
8.	Zinc as Zn	mg/L	<b>&lt; 1</b>	0.297	0.37	0.365	0.325	0.435	0.363
9.	Iron as Fe	mg/L	<b>&lt; 1</b>	0.347	0.453	0.4325	0.393	0.445	0.418
10.	Total Suspended Solid	mg/L	<b>&lt; 100</b>	36	34.75	38.25	32	43	30.0
11.	Ammonical Nitrogen as N	mg/L	<b>&lt; 50</b>	4.89	5.6	5.6	5.47	5.7	5.21
12.	Nitrate Nitrogen	mg/L	<b>&lt; 10</b>	2.29	2.03	2.15	1.83	1.73	2.0
13.	Total Chromium as Cr	mg/L	<b>&lt; 1</b>	BDL<0.01	BDL<0.01	BDL<0.01	BDL<0.01	BDL<0.01	BDL<0.01

**ANNEXURE-III****COAL ANALYSIS REPORT****COAL ANALYSIS REPORT APR, 2019 – SEP, 2019**

	<b>AVERAGE</b>					
<b>Month</b>	<b>Total Moisture</b>	<b>Volatile Matter</b>	<b>Ash</b>	<b>Fix Carbon</b>	<b>Gross Calorific Value</b>	<b>Sulfur</b>
	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>Kcal/Kg</b>	<b>%</b>
<b>April</b>	43.3087	23.37	13.41	19.91	2864.900	0.910
<b>May</b>	42.7280	23.00	13.89	20.38	2848.550	0.921
<b>June</b>	42.9193	23.30	14.45	19.33	2825.410	0.925
<b>July</b>	43.6490	23.73	14.29	18.34	2753.150	0.920
<b>Aug</b>	42.5040	23.31	14.56	19.63	2814.683	0.920
<b>Sept</b>	42.2921	23.35	14.45	19.91	2834.274	0.918

**Mitra S. K. Private Limited**

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Certificate No.: - MSK/UDR/JSW/2019-20/01

Date:- 06.05.2019

**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 01.04.2019 to 30.04.2019**

**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)
01.04.19	43.01	13.76	23.83	19.40	2890	0.87
02.04.19	43.26	13.85	23.90	18.99	2880	0.88
03.04.19	43.62	13.09	24.20	19.09	2870	0.91
04.04.19	43.46	13.70	23.37	19.47	2880	0.95
05.04.19	43.72	12.96	23.16	20.16	2861	0.95
06.04.19	43.14	13.71	23.59	19.56	2895	0.92
07.04.19	43.37	13.91	23.30	19.42	2900	0.94
08.04.19	44.13	13.72	23.08	19.07	2875	0.90
09.04.19	43.54	13.71	22.20	20.55	2844	0.95
10.04.19	43.98	13.07	23.25	19.70	2835	0.93
11.04.19	43.85	13.82	23.35	18.98	2841	0.89
12.04.19	43.27	13.20	23.67	19.86	2866	0.95
13.04.19	43.23	12.92	24.17	19.68	2859	0.88
14.04.19	43.27	13.06	23.24	20.43	2870	0.95
15.04.19	43.38	13.78	23.53	19.31	2863	0.87
16.04.19	43.30	13.62	22.57	20.51	2880	0.91
17.04.19	41.14	13.11	23.87	21.88	2996	0.90
18.04.19	43.73	13.54	22.80	19.93	2843	0.94
19.04.19	43.77	13.69	23.14	19.40	2840	0.88
20.04.19	43.16	13.77	22.32	20.75	2849	0.95
21.04.19	43.30	13.05	24.00	19.65	2844	0.92

H.O. : Shrachi Centre (5th Floor), 74B, Acharya Jagadish Chandra Bose Road, Kolkata - 700 016, West Bengal, India  
T : 91 33 22172249 / 4014 3000/ 2265 0006 / 2265 0007 F : 91 33 2265 0008 E : info@mitrask.com W : www.mitrask.com



**Mitra S. K. Private Limited**

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Certificate No. : - MSK/UDR/JSW/2019-20/01

Date:- 06.05.2019

Date	TM% (ARB)	ASH% (ARB)	VM% (ARB)	FC% (ARB)	GCV (Kcal/kg) (ARB)	Sulfur% (ARB)
22.04.19	43.05	13.31	23.87	19.77	2859	0.88
23.04.19	43.14	13.06	24.28	19.52	2851	0.89
24.04.19	42.63	13.39	23.18	20.80	2860	0.91
25.04.19	42.91	13.26	22.97	20.86	2856	0.94
26.04.19	42.87	12.51	23.60	21.02	2861	0.87
27.04.19	43.40	13.87	22.79	19.94	2850	0.88
28.04.19	43.07	13.56	22.60	20.77	2860	0.93
29.04.19	43.01	13.19	24.10	19.70	2865	0.89
30.04.19	43.15	13.47	23.09	20.29	2863	0.88

**Note :-**

1. These Samples were collected by Mitra S. K. Pvt. Ltd. from JSW Energy (Barmer) Ltd. Plant, Bhadresh & analyzed at our NABL accredited Gandhidham Lab.

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**

5/4, Shankar Colony,  
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Certificate No.: - MSK/UDR/JSW/2019-20/13



Date:- 04.06.2019

**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 01.05.2019 to 31.05.2019

**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)
01.05.19	42.89	14.07	22.64	20.40	2855	0.95
02.05.19	42.98	13.77	22.37	20.88	2845	0.97
03.05.19	42.75	14.21	22.62	20.42	2862	0.95
04.05.19	43.09	13.27	22.91	20.73	2849	0.93
05.05.19	42.78	13.73	22.77	20.72	2851	0.90
06.05.19	42.91	14.10	23.22	19.77	2864	0.93
07.05.19	42.62	13.71	23.45	20.22	2870	0.89
08.05.19	42.49	13.95	22.57	20.99	2865	0.92
09.05.19	42.39	14.05	22.51	21.05	2860	0.90
10.05.19	43.34	13.44	22.80	20.42	2822	0.91
11.05.19	42.99	14.12	23.07	19.82	2835	0.96
12.05.19	42.74	13.89	22.95	20.42	2841	0.90
13.05.19	43.16	13.73	22.60	20.51	2823	0.91
14.05.19	43.22	13.44	23.39	19.95	2830	0.89
15.05.19	42.93	14.08	23.09	19.90	2839	0.92
16.05.19	42.82	14.01	22.81	20.36	2842	0.94
17.05.19	43.50	14.41	22.41	19.68	2800	0.91
18.05.19	42.54	13.77	23.84	19.85	2865	0.92
19.05.19	42.36	14.19	23.39	20.06	2860	0.91
20.05.19	42.07	13.68	23.28	20.97	2875	0.90
21.05.19	43.22	13.32	23.38	20.08	2823	0.92

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**Mitra S. K. Private Limited**

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**TESTING • INSPECTION**

Certificate No. : - MSK/UDR/JSW/2019-20/13

Date:- 04.06.2019

Date	TM% (ARB)	ASH% (ARB)	VM% (ARB)	FC% (ARB)	GCV (Kcal/kg) (ARB)	Sulfur% (ARB)
22.05.19	41.95	13.82	23.41	20.82	2888	0.91
23.05.19	41.77	14.01	22.98	21.24	2893	0.92
24.05.19	41.92	14.32	23.16	20.60	2885	0.92
25.05.19	42.25	14.27	23.32	20.16	2876	0.92
26.05.19	42.34	13.94	23.23	20.49	2871	0.93
27.05.19	43.21	14.08	22.73	19.98	2820	0.92
28.05.19	43.16	13.93	23.05	19.86	2811	0.92
29.05.19	43.36	14.26	23.03	19.35	2805	0.92
30.05.19	42.99	13.76	22.60	20.65	2819	0.93
31.05.19	41.98	13.62	23.31	21.09	2883	0.93

**Note :-**

1. These Samples were collected by Mitra S. K. Pvt. Ltd. from JSW Energy (Barmer) Ltd. Plant, Bhadresh & analyzed at our NABL accredited Gandhidham Lab.
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/2019-20/25

Date:- 05.07.2019

**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 01.06.2019 to 30.06.2019**

**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)
01.06.19	41.75	14.32	23.44	20.49	2893	0.94
02.06.19	41.67	14.54	23.49	20.30	2895	0.99
03.06.19	42.71	14.59	23.02	19.68	2855	0.93
04.06.19	42.25	14.51	23.92	19.32	2860	0.94
05.06.19	42.70	14.30	23.44	19.56	2866	0.92
06.06.19	42.99	14.21	23.04	19.76	2832	0.97
07.06.19	42.66	14.61	22.81	19.92	2840	0.98
08.06.19	42.17	14.52	22.80	20.51	2845	0.91
09.06.19	43.17	14.49	22.72	19.62	2840	0.92
10.06.19	42.89	14.53	23.22	19.36	2855	0.93
11.06.19	42.96	14.67	23.11	19.26	2847	0.92
12.06.19	42.37	14.52	23.22	19.89	2862	0.91
13.06.19	42.69	14.71	22.30	20.30	2845	0.93
14.06.19	42.21	14.42	23.93	19.44	2852	0.91
15.06.19	42.10	14.29	23.48	20.13	2860	0.91
16.06.19	42.27	14.61	24.32	18.80	2857	0.93
17.06.19	42.37	14.02	24.36	19.25	2863	0.93
18.06.19	42.85	14.12	23.75	19.28	2846	0.89
19.06.19	43.26	14.02	23.96	18.76	2802	0.87
20.06.19	43.50	14.36	23.22	18.92	2808	0.92
21.06.19	42.91	14.31	23.26	19.52	2835	0.90

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Certificate No.: - MSK/UDR/JSW/2019-20/25

Date:- 05.07.2019

Date	TM% (ARB)	ASH% (ARB)	VM% (ARB)	FC% (ARB)	GCV (Kcal/kg) (ARB)	Sulfur% (ARB)
22.06.19	43.33	14.52	23.92	18.23	2800	0.90
23.06.19	42.91	14.27	22.83	19.99	2806	0.93
24.06.19	43.37	14.51	22.21	19.91	2769	0.88
25.06.19	43.32	14.48	23.22	18.98	2765	0.95
26.06.19	44.21	14.70	23.31	17.78	2761	0.93
27.06.19	43.57	14.50	23.56	18.37	2777	0.90
28.06.19	44.00	14.59	23.11	18.30	2750	0.92
29.06.19	44.55	14.37	23.32	17.76	2730	0.92
30.06.19	44.44	14.64	23.41	17.51	2728	0.97

**Note :-**

1. These Samples were collected by Mitra S. K. Pvt. Ltd. from JSW Energy (Barmer) Ltd. Plant, Bhadresh & analyzed at our NABL accredited Gandhidham Lab.
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

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Certificate No.: - MSK/UDR/JSW/2019-20/37

Date:- 05.08.2019

**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 01.07.2019 to 31.07.2019**

**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)
01.07.19	44.01	13.93	24.05	18.00	2751	0.88
02.07.19	43.35	14.33	23.42	18.90	2789	0.92
03.07.19	44.10	14.46	23.36	18.10	2750	0.91
04.07.19	44.00	14.87	23.59	17.50	2722	0.96
05.07.19	44.04	15.03	23.49	17.40	2736	0.95
06.07.19	43.50	14.65	23.52	18.30	2768	0.91
07.07.19	42.96	14.22	23.38	19.40	2760	0.91
08.07.19	42.81	13.82	24.33	19.00	2780	0.92
09.07.19	43.26	14.64	23.98	18.10	2771	0.92
10.07.19	43.42	14.82	23.75	18.00	2755	0.94
11.07.19	43.51	13.89	23.89	18.70	2751	0.91
12.07.19	43.74	13.83	23.41	19.00	2744	0.94
13.07.19	44.38	14.56	23.94	17.10	2749	0.92
14.07.19	43.80	13.63	23.42	19.20	2753	0.91
15.07.19	42.92	13.53	23.89	19.70	2759	0.94
16.07.19	43.71	13.85	23.72	18.70	2730	0.95
17.07.19	44.32	13.64	24.01	18.00	2723	0.96
18.07.19	44.06	14.04	23.40	18.50	2715	0.91
19.07.19	44.33	13.84	24.11	17.70	2722	0.92
20.07.19	43.84	14.61	23.56	18.00	2740	0.92
21.07.19	43.29	14.78	23.95	18.00	2744	0.91

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Certificate No.: - MSK/UDR/JSW/2019-20/37

Date:- 05.08.2019

Date	TM% (ARB)	ASH% (ARB)	VM% (ARB)	FC% (ARB)	GCV (Kcal/kg) (ARB)	Sulfur% (ARB)
22.07.19	43.54	13.15	23.69	19.60	2751	0.91
23.07.19	43.84	14.88	24.20	17.10	2733	0.92
24.07.19	43.46	13.69	23.35	19.50	2759	0.95
25.07.19	43.72	14.27	23.70	18.30	2770	0.93
26.07.19	43.14	14.91	23.46	18.50	2780	0.95
27.07.19	43.89	14.28	24.34	17.50	2790	0.92
28.07.19	42.73	15.83	23.90	17.50	2795	0.91
29.07.19	43.10	15.27	23.35	18.30	2788	0.90
30.07.19	43.23	15.22	23.76	17.80	2792	0.96
31.07.19	43.85	13.31	23.66	19.20	2751	0.90

**Note :-**

1. These Samples were collected by Mitra S. K. Pvt. Ltd. from JSW Energy (Barmer) Ltd. Plant, Bhadresh & analyzed at our NABL accredited Gandhidham Lab.
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/2019-20/49

Date:- 06.09.2019

**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 01.08.2019 to 31.08.2019

**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)
01.08.19	42.79	14.88	22.78	19.55	2798	0.91
02.08.19	42.98	14.65	23.46	18.91	2793	0.96
03.08.19	42.75	14.85	22.72	19.68	2794	0.95
04.08.19	42.86	14.68	23.06	19.40	2795	0.95
05.08.19	42.61	13.62	23.16	20.61	2797	0.94
06.08.19	43.03	14.84	23.36	18.77	2790	0.96
07.08.19	43.35	14.31	23.04	19.30	2781	0.94
08.08.19	43.58	14.35	23.01	19.06	2770	0.93
09.08.19	43.73	14.68	22.68	18.91	2765	0.96
10.08.19	43.54	14.47	23.11	18.88	2760	0.95
11.08.19	43.59	13.50	23.35	19.56	2764	0.93
12.08.19	43.71	14.92	22.69	18.68	2755	0.91
13.08.19	43.37	14.65	23.23	18.75	2770	0.89
14.08.19	43.38	14.87	23.10	18.65	2769	0.90
15.08.19	43.19	14.98	23.29	18.54	2771	0.94
16.08.19	43.11	13.65	23.31	19.93	2788	0.92
17.08.19	43.07	14.40	23.69	18.84	2800	0.92
18.08.19	42.71	13.55	23.72	20.02	2803	0.86
19.08.19	42.82	14.76	23.44	18.98	2796	0.90
20.08.19	43.16	14.88	23.29	18.67	2787	0.84
21.08.19	43.05	14.89	22.69	19.37	2781	0.91

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Certificate No.: - MSK/UDR/JSW/2019-20/49

Date:- 06.09.2019

Date	TM% (ARB)	ASH% (ARB)	VM% (ARB)	FC% (ARB)	GCV (Kcal/kg) (ARB)	Sulfur% (ARB)
22.08.19	42.05	14.92	22.98	20.05	2834	0.85
23.08.19	41.24	13.95	24.87	19.94	2869	0.91
24.08.19	41.11	14.91	23.50	20.48	2878	0.89
25.08.19	41.08	14.64	23.25	21.03	2880	0.90
26.08.19	40.90	14.96	23.07	21.07	2895	0.93
27.08.19	41.10	14.56	23.75	20.59	2889	0.95
28.08.19	40.96	14.74	23.88	20.42	2890	0.95
29.08.19	41.03	14.62	23.49	20.86	2896	0.89
30.08.19	41.14	14.95	23.37	20.54	2891	0.93
31.08.19	40.90	14.66	23.96	20.48	2889	0.91

**Note :-**

1. These Samples were collected by Mitra S. K. Pvt. Ltd. from JSW Energy (Barmer) Ltd. Plant, Bhadresh & analyzed at our NABL accredited Gandhidham Lab.
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

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Certificate No.: - MSK/UDR/JSW/2019-20/61

Date:- 05.10.2019

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**Date & Place of Attendance:** At JSW Energy (Barmer) Ltd. Plant, Bhadresh from 01.09.2019 to 30.09.2019

**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)
01.09.19	40.96	13.89	23.73	21.42	2886	0.93
02.09.19	41.10	14.23	24.44	20.23	2881	0.89
03.09.19	42.29	13.14	24.05	20.52	2822	0.94
04.09.19	41.64	13.74	23.57	21.05	2854	0.95
05.09.19	41.44	14.48	23.07	21.01	2866	0.96
06.09.19	41.87	14.59	23.16	20.38	2845	0.96
07.09.19	42.36	14.88	23.20	19.56	2822	0.88
08.09.19	41.99	14.79	22.82	20.40	2841	0.94
09.09.19	42.30	14.56	23.15	19.99	2825	0.93
10.09.19	42.24	14.78	23.32	19.66	2829	0.92
11.09.19	42.23	14.46	23.28	20.03	2836	0.94
12.09.19	41.50	14.71	23.73	20.06	2889	0.90
13.09.19	42.25	14.53	22.99	20.23	2840	0.89
14.09.19	42.64	13.34	24.46	19.56	2820	0.94
15.09.19	42.83	14.23	24.27	18.67	2803	0.96
16.09.19	42.33	13.89	23.42	20.36	2832	0.91
17.09.19	42.19	14.20	23.98	19.63	2842	0.88
18.09.19	42.19	14.01	23.65	20.15	2838	0.93
19.09.19	42.21	14.94	23.86	18.99	2844	0.91
20.09.19	42.54	14.75	23.06	19.65	2822	0.93
21.09.19	42.45	14.77	22.83	19.95	2829	0.89

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Certificate No.: - MSK/UDR/JSW/2019-20/61

Date:- 05.10.2019

Date	TM% (ARB)	ASH% (ARB)	VM% (ARB)	FC% (ARB)	GCV (Kcal/kg) (ARB)	Sulfur% (ARB)
22.09.19	42.86	14.67	22.83	19.64	2825	0.90
23.09.19	42.97	14.78	22.47	19.78	2811	0.90
24.09.19	42.57	14.83	22.49	20.11	2824	0.92
25.09.19	42.64	14.78	22.42	20.16	2820	0.91
26.09.19	42.74	14.68	23.01	19.57	2814	0.93
27.09.19	42.68	13.67	23.73	19.92	2825	0.87
28.09.19	42.60	14.76	23.27	19.37	2835	0.91
29.09.19	42.53	14.89	24.33	18.25	2830	0.89
30.09.19	42.60	14.84	22.88	19.68	2825	0.93

**Note :-**

1. These Samples were collected by Mitra S. K. Pvt. Ltd. from JSW Energy (Barmer) Ltd. Plant, Bhadresh & analyzed at our NABL accredited Gandhidham Lab.
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**
**STACK EMISSION MONITORING RESULTS APR, 2019 – SEP, 2019**
**Month: Apr, 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	16.3	16.8	18.7	15.1	15.7	17.4	16.6
2	Flow	Nm <sup>3</sup> /Sec	131.2	128.9	130.7	144.2	125.1	129.6	140.9	131.4
3	Stack Exit Temp.	°C	124	138	146	150	120	122	129	139
4	Particulate Matter	mg/Nm <sup>3</sup>	48.6	52.3	46.7	45.0	51.6	50.4	48.2	54.2
5	Sulphur Dioxide	mg/Nm <sup>3</sup>	365.1	533.0	519.1	492.2	363.6	390.0	497.5	476
6	Oxides of Nitrogen	mg/Nm <sup>3</sup>	148.0	158.9	185.6	206.9	152.0	160.2	172.2	156

**Month: May, 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	16.3	17.8	15.7	16.1	18.4	18.2	17.9
2	Flow	Nm <sup>3</sup> /Sec	131.6	135.1	145.3	127.2	132.4	144.4	146.3	145.4
3	Stack Exit Temp.	°C	150	120	126	129	123	142	132	128
4	Particulate Matter	mg/Nm <sup>3</sup>	54.2	50.8	52.1	49.7	55.8	48.6	52.9	54.7
5	Sulphur Dioxide	mg/Nm <sup>3</sup>	468.5	451.9	488.2	468.6	448.1	459.5	465.9	467.0
6	Oxides of Nitrogen	mg/Nm <sup>3</sup>	161.8	145.0	156.4	155.7	141.2	140.2	159.9	150.7

**Month: Jun, 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	17.4	16.7	15.9	18.5	17.0	18.2	17.3	16.2
2	Flow	Nm <sup>3</sup> /Sec	135.6	127.0	126.0	138.8	133.7	137.5	132.9	125.0
3	Stack Exit Temp.	°C	145	155	138	161	141	158	151	149
4	Particulate Matter	mg/Nm <sup>3</sup>	54.6	51.3	49.8	56.3	44.8	53.7	48.9	46.3
5	Sulphur Dioxide	mg/Nm <sup>3</sup>	588.0	543.7	497.9	527.4	525.9	594.7	522.1	525.0
6	Oxides of Nitrogen	mg/Nm <sup>3</sup>	191.9	176.3	145.1	157.9	172.0	171.0	158.9	159.6

**Month: Jul' 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	15.9	16.5		17.7	16.8	17.9	17.3	17.6
2	Flow	Nm <sup>3</sup> /Sec	125.4	127.6		140.6	130.6	136.5	135.1	136.1
3	Stack Exit Temp.	°C	140	148		137	146	154	144	148
4	Particulate Matter	mg/Nm <sup>3</sup>	51.7	50.5	S/D	54.3	48.7	52.4	46.8	45.1
5	Sulphur Dioxide	mg/Nm <sup>3</sup>	495.9	464.7		492.5	503	511.9	497.9	523.6
6	Oxides of Nitrogen	mg/Nm <sup>3</sup>	164.2	143.1		155.5	177.9	165.5	153.1	161.3

**Month: Aug' 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	14.3	13.4	15.1	14.9	15.6	13.9	13.4	13.7
2	Flow	Nm <sup>3</sup> /Sec	118.9	112.6	124.7	124.6	127.9	118.3	116.0	117.1
3	Stack Exit Temp.	°C	129	125	132	127	135	120	114	119
4	Particulate Matter	mg/Nm <sup>3</sup>	45.7	54.6	49.8	47.2	55.5	52.2	50.7	53.2
5	Sulphur Dioxide	mg/Nm <sup>3</sup>	452.4	393.4	495.6	443.6	453.6	420.3	373.1	383.4
6	Oxides of Nitrogen	mg/Nm <sup>3</sup>	143.5	127.0	153.9	154.1	166.1	165.2	134.1	150.9

**Month: Sep' 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	14.7	15.7	15.4	15.9	14.4	15.7	16.0
2	Flow	Nm <sup>3</sup> /Sec	127.1	118.5	122.4	125.0	122.3	118.9	126.6	127.1
3	Stack Exit Temp.	°C	148	142	156	139	162	132	142	148
4	Particulate Matter	mg/Nm <sup>3</sup>	46.7	45.0	51.6	50.4	54.6	51.3	57.8	46.7
5	Sulphur Dioxide	mg/Nm <sup>3</sup>	572.8	528.2	591.8	501.5	526.7	477.0	500.2	572.8
6	Oxides of Nitrogen	mg/Nm <sup>3</sup>	188.2	159.6	160.5	160.2	167.8	173.4	170.6	188.2

**ANNEXURE-IV**
**Unit # 1 - Continuous Emission Monitoring System-CEMS DATA**

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-19	Average	257	82	22
	Max	443	166	53
May-19	Average	316	123	43
	Max	463	198	74
Jun-19	Average	235	91	42
	Max	413	155	77
Jul-19	Average	223	136	40
	Max	429	297	70
Aug-19	Average	120	40	26
	Max	370	79	57
Sep-19	Average	148	23	12
	Max	411	128	64

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

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-19	Average	195	56	23
	Max	430	118	50
May-19	Average	277	74	27
	Max	467	171	45
Jun-19	Average	376	169	52
	Max	497	505	70
Jul-19	Average	267	134	60
	Max	446	239	78
Aug-19	Average	245	150	55
	Max	390	223	95
Sep-19	Average	278	142	49
	Max	421	201	72

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

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-19	Average	354	127	38
	Max	739	174	60
May-19	Average	401	142	76
	Max	496	216	96
Jun-19	Average	280	102	57
	Max	453	196	77
Jul-19	Average	11	16	4
	Max	190	82	70
Aug-19	Average	194	89	56
	Max	266	156	71
Sep-19	Average	244	98	69
	Max	340	177	75

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

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-19	Average	342	73	54
	Max	458	161	67
May-19	Average	329	87	42
	Max	424	121	59
Jun-19	Average	302	65	26
	Max	470	113	75
Jul-19	Average	232	92	39
	Max	433	272	75
Aug-19	Average	217	149	49
	Max	353	210	84
Sep-19	Average	320	133	64
	Max	396	170	80

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

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-19	Average	383	53	29
	Max	496	118	43
May-19	Average	350	74	38
	Max	428	211	48
Jun-19	Average	274	88	52
	Max	445	186	63
Jul-19	Average	155	52	51
	Max	397	171	77
Aug-19	Average	222	103	41
	Max	387	189	58
Sep-19	Average	289	146	44
	Max	416	238	51

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

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-19	Average	365	63	51
	Max	440	139	77
May-19	Average	146	61	23
	Max	429	202	50
Jun-19	Average	199	54	30
	Max	420	115	48
Jul-19	Average	220	97	24
	Max	424	219	41
Aug-19	Average	246	95	31
	Max	407	251	39
Sep-19	Average	257	181	34
	Max	411	227	37

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

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-19	Average	367	108	53
	Max	471	218	68
May-19	Average	326	96	53
	Max	427	212	77
Jun-19	Average	262	108	39
	Max	470	211	50
Jul-19	Average	228	71	50
	Max	429	250	57
Aug-19	Average	273	50	53
	Max	415	105	76
Sep-19	Average	245	84	53
	Max	369	129	77

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

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-19	Average	356	97	42
	Max	560	158	71
May-19	Average	292	133	58
	Max	416	170	73
Jun-19	Average	231	112	51
	Max	446	201	73
Jul-19	Average	203	123	57
	Max	431	195	79
Aug-19	Average	220	133	44
	Max	432	195	74
Sep-19	Average	225	83	48
	Max	404	165	80



**Ministry of Environment, Forest and Climate Change  
Monthly Abstract of Ash Generation and Utilisation**

(For the Period from April, 2019 to Sept, 2019)

**ANNEXURE-V**

**Name of Thermal Power Plant:** Jalipa-Kapurdi Thermal Plant Lignite Coal Base Thermal Plant

Sr. No	Month	Ash Generation and Utilisation						Mode of Ash Utilisation and Utilisation in Each Mode (IN LAKH TON)									
		Coal Consume (Lakh Ton)	Lime Coal Consumed (Lakh Ton)	Ash Content of Coal (Percentage)	Ash Generation (Lakh Ton)	Ash Utilised (Lakh Ton)	Ash Utilisation (Percentage)	In Making of Fly Ash Based Bricks/ Blocks/ Tiles etc.	In Manufacture of Portland Pozzolana Cement	In Construction of Highway & Roads including Flyovers	Part Replacement of Cement in Concrete	In Hydro Sector as Part replacement or in Roller Compacted Concrete Dam Construction	In Ash Dyke Raising	In Reclamation of Low Lying Area	In Mine Filling	In Agriculture / Waste Land Development	Other (Pl Specify)
1	April, 19	4.342	0.111	13.41	0.6800	0.7131	104.9	0.6434	0.0697						0.0000		
2	May, 19	4.829	0.193	13.89	0.8407	0.7112	84.6	0.4778	0.1243						0.1092		
3	June, 19	4.774	0.190	14.45	0.8573	0.8018	93.5	0.5088	0.1185						0.1744		
4	July, 19	4.321	0.201	14.29	0.7939	0.8541	107.6	0.4940	0.1215						0.2386		
5	Aug, 19	4.263	0.229	14.56	0.8220	0.7760	94.4	0.4262	0.1323						0.2176		
6	Sep, 19	4.529	0.187	14.45	0.8189	0.7541	92.1	0.4198	0.1573						0.1770		
7																	
8																	
9																	
10																	
11																	
12																	
<b>Total</b>		<b>27.0579</b>	<b>1.1101</b>	<b>14.18</b>	<b>4.8127</b>	<b>4.610</b>	<b>95.79</b>	<b>2.9699</b>	<b>0.7236</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.9167</b>		

**Cement Industries and Some Fly ash Brick manufacturer has taken fly ash from Ash pond**

**ANNEXURE-VI**
**Noise Level Monitoring- APR, 2019 – SEP, 2019**

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	72.8	61.4	73.8	69.4	73.2	63.7	70.6	59.3	64.3	58.1	69.4	72.5
2	COOLING TOWER END	74.2	64.2	69.7	62.8	70.5	60.7	72.5	64.7	69.2	56.9	57.8	64.7
3	NORTH WEST CORNER	73.4	62.8	72.3	65.3	71.1	64.4	70.6	61.8	68.6	59.8	69.4	72.5
4	Bhadresh Village	51.6	40.6	54.2	43.9	54.5	42.8	53.8	42.6	52.6	41.2	57.8	64.7
5	Isharpura Village	53.4	43.8	53.9	44.8	54.7	42.5	54.7	42.5	54.7	42.5	69.4	72.5
5	Chuli Village	54.1	44.2	52.6	43.4	53.8	42.4	54.3	42.9	51.4	41.8	57.8	64.7

**ANNEXURE-VII**
**Ambient Air Quality Data- APR, 2019 – SEP, 2019**
**Month – Apr' 2019**

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 ( $\text{mg}/\text{m}^3$ )	PM-2.5 ( $\mu\text{g}/\text{m}^3$ )
1	Main Gate	40.48	15.21	19.56	0.43	15.21
2	Ash pond	36.38	9.86	15.03	1.49	9.86
3	Reservoir Area	38.13	31.39	22.61	1.29	31.39
4	Bhardesh Village	75.18	17.33	27.09	0.24	39.89
5	Ishrpura Village	75.29	14.03	24.49	0.26	39.78
6	Chuli Village	76.98	15.71	23.28	0.25	37.99

**Month – May' 2019**

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 ( $\text{mg}/\text{m}^3$ )	PM-2.5 ( $\mu\text{g}/\text{m}^3$ )
1	Reservoir Area	44.11	13.78	19.48	0.33	27.89
2	Main Gate	32.33	5.48	15.10	1.43	10.71
3	Ash pond	35.64	30.54	22.59	1.18	17.01
4	Bhardesh Village	76.69	17.71	27.21	0.23	40.45
5	Ishrpura Village	76.64	14.17	24.60	0.26	40.23
6	Chuli Village	77.63	15.78	23.91	0.24	38.43

**Month – Jun' 2019**

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 ( $\text{mg}/\text{m}^3$ )	PM-2.5 ( $\mu\text{g}/\text{m}^3$ )
1	Reservoir Area	39.15	16.28	15.93	0.42	27.36
2	Main Gate	32.64	1.22	15.03	1.51	10.91
3	Ash pond	33.33	26.91	22.59	1.71	10.63
4	Bhardesh Village	77.98	18.03	27.66	0.24	41.14
5	Ishrpura Village	77.81	14.51	25.34	0.28	40.80
6	Chuli Village	78.93	16.06	24.31	0.24	39.06

**ANNEXURE-VII**
**Month – Jul' 2019**

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 ( $\text{mg}/\text{m}^3$ )	PM-2.5 ( $\mu\text{g}/\text{m}^3$ )
1	Reservoir Area	40	15	15	0.40	28
2	Main Gate	40	17	14	1.54	11
3	Ash pond	58	23	12	0.43	17
4	Bhardesh Village	76	18	27	0.23	40
5	Ishrpura Village	75	14	25	0.27	39
6	Chuli Village	77	16	23	0.24	38

**Month – Aug' 2019**

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 ( $\text{mg}/\text{m}^3$ )	PM-2.5 ( $\mu\text{g}/\text{m}^3$ )
1	Reservoir Area	40	S/D	14	0.36	28
2	Main Gate	24	14	19	1.91	11
3	Ash pond	38	24	12	1.56	9
4	Bhardesh Village	73	18	25	0.20	39
5	Ishrpura Village	73	14	24	0.26	38
6	Chuli Village	75	15	24	0.24	37

**Month – Sep' 2019**

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 ( $\text{mg}/\text{m}^3$ )	PM-2.5 ( $\mu\text{g}/\text{m}^3$ )
1	Reservoir Area	37	S/D	13	0.28	27
2	Main Gate	23	18	20	1.98	12
3	Ash pond	31	16	21	1.04	9
4	Bhardesh Village	75	18	25	0.21	39
5	Ishrpura Village	75	14	24	0.26	39
6	Chuli Village	76	16	25	0.24	38

**ANNEXURE-VIII****Energy (Barmer) Limited**

(Formerly : Raj WestPower Limited)

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

Distt : Barmer – 344001 (Rajasthan)

CIN : U31102MH1996PLC185098

Phone : +91 2982 229100

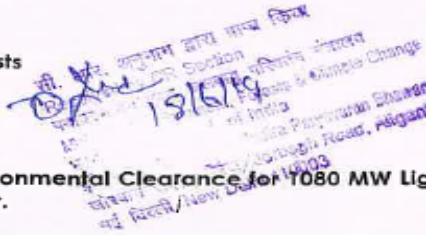
Fax : +91 2982 229222

Website : [www.jsw.in](http://www.jsw.in)

Ref: JSWE(B)/ENV/19-20/010

Date: 14.06.2019

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 - 2018 to MARCH - 2019**, for the conditions stipulated in the Environmental clearance issued for this Power Project. Analysis Data has uploaded on RWPL website – [www.rwpl.in](http://www.rwpl.in).

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



Dillip D. Narwani  
Dy. General Manager (Environment & Chemistry)

Enclosure:

1. Compliance Report
2. Water consumption Data
3. Coal Analysis Data
4. Stack monitoring Data
5. Ash Utilization Data
6. AAQ Monitoring Data
7. Effluent Water Data

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, 7<sup>th</sup> Floor, Man Upasana Plaza, C-44, Sardar Patel Marg, C-Scheme, Jaipur – 302 001 Ph : 0141 2369772 Fax 0141 2369774