



JSW Energy (Barmer) Limited
(Formerly: Raj WestPower Limited)
Vill. & 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/2021-22/011

Date: 20.05.2021

To,

Member Secretary

Rajasthan State Pollution Control Board
4-Institutional Area, Jhalana Doongari,
Jaipur – 302004

Sub: Environmental Statement 2020 – 2021.

UNIT ID – 5276

Dear Sir,

We herewith enclose duly filled form – V of Environmental statement of JSWE(B)L for the financial year 2020 - 2021.

Please acknowledge the same.

Thanking you,
Yours faithfully

For JSW Energy (BARMER) Ltd

Vinod Kumar Jindal
Asst. General Manager – LHS, Environment & Chemistry

Enclosure

Form – V

- Annexure _ I Characterization of Solid Waste – **Fly ash & Bed Ash**
- Annexure _ II CEMS Date for All Eight Units
- Annexure _ III Water Utilization Data
- Annexure _ IV Effluent Water Quality
- Annexure _ V Ash Management Data
- Annexure _ VI Form – 4 of Haz Waste Management

CC. Regional Officer, RSPCB - Balotara

F O R M - V
(See Rule 14)

From:

Vinod Kumar Jindal
Asst. Gen. Manager (LHS, Env & Chem),
JSW Energy (Barmer) Limited
Village Bhadresh
Tehsil-Barmer
Dist. Barmer – 344 001

To:

Environment Engineer
Rajasthan State Pollution Control Board,
4, Institutional Area",
Jhalan Dungari,
Jaipur, Rajasthan-302 004

Environmental Statement for the financial year 2020-2021

PART – A

- (i) Name and address of the owner / : **ASHESH KUMAR PADHY**
occupier of the industry operation or **JSW Energy (Barmer) Limited**
process **Village- Bhadresh,**
Tehsil- Barmer.
Dist. – Barmer-344 001
- (ii) Industry category – : **8 x 135 MW (1080 MW) Lignite based**
Primary – (STC Code) **Power Plant.**
Secondary – (SIC Code)
- (iii) Production capacity Units : **8 x 135 MW**
- (iv) Year of establishment : **28.2.2007**
- (v) Date of the last Environmental Statement : **16.06.2020**
submitted

PART – B

Water and Raw Material Consumption

(1) Water consumption M³ / day

Water Consumption (m ³ /day)	During the Previous financial year (2019-20)	During the current financial year (2020-21)
Process (for DM Water)	958	1312
Cooling (From CW)	41039	45631
Domestic	96.5	101

Name of Products	Raw water consumption	
	During the Previous financial year (2019-20)	During the current financial year (2020-21)
Power - KL/MW	2.607	2.46

(ii) Raw material consumption

Name of raw material	Name of products	Consumption of raw material per unit of output	
		During the Previous financial year (2019-20)	During the current financial year (2020-21)
		(1)	(2)
Coal Cons. MT/MW		0.904	0.846
Oil Cons. KL/MW	Power	0.00010	0.00010

a.

b. PART – C

Pollution discharged to environment / unit of output
(Parameter as specified in the consent issued)

Pollutants	Quantity of pollutants discharged (mass / day)	Concentration of pollutants in discharged (mass / volume)		Percentage of variation from prescribed standards with reasons
(a) Water		Suspended Solids	37.0 mg/lit	Within limit
		Oil & Grease	2.55 mg/lit	
		Total Copper	0.0151 mg/lit	
		Total Iron	0.35 mg/lit.	
		Free available Chlorine	<0.2 mg/lit	
		Zinc	0.291 mg/lit	
		Hexavalent Chromium	ND	
		Total Chromium	ND	

(b) Air SPM SO₂ NO_x	<p>SPM :</p> <ul style="list-style-type: none"> ⇒ Unit-1 47.3 mg/Nm³ ⇒ Unit-2 48.7 mg/Nm³ ⇒ Unit-3 50.6 mg/Nm³ ⇒ Unit-4 49.1 mg/Nm³ ⇒ Unit-5 53.8 mg/Nm³ ⇒ Unit-6 51.8 mg/Nm³ ⇒ Unit-7 50.7 mg/Nm³ ⇒ Unit-8 53.3 mg/Nm³ <p>SO₂ : at 6% O₂ Ref.</p> <ul style="list-style-type: none"> ⇒ Unit-1 373.2 mg/Nm³ ⇒ Unit-2 448.4 mg/Nm³ ⇒ Unit-3 437.1 mg/Nm³ ⇒ Unit-4 464.1 mg/Nm³ ⇒ Unit-5 419.8 mg/Nm³ ⇒ Unit-6 423.3 mg/Nm³ ⇒ Unit-7 470.6 mg/Nm³ ⇒ Unit-8 466.6 mg/Nm³ <p>NO_x : at 6% O₂ Ref.</p> <ul style="list-style-type: none"> ⇒ Unit-1 145.5 mg/Nm³ ⇒ Unit-2 158.4 mg/Nm³ ⇒ Unit-3 172.0 mg/Nm³ ⇒ Unit-4 186.1 mg/Nm³ ⇒ Unit-5 158.3 mg/Nm³ ⇒ Unit-6 165.2 mg/Nm³ ⇒ Unit-7 153.3 mg/Nm³ ⇒ Unit-8 158.4 mg/Nm³ 	Within limit
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PART – D

[As specified under Hazardous Wastes (Management and Handling) Rules, 1989]

Hazardous Waste	Total Quantity (Kg.)	
	During the Previous financial year (2019-20)	During the current financial year (2020-21)
(a) From process (i) Waste oil (ii) Used Batteries (lead acid) (iii) Waste Resin (iv) Discarded drum	12726 Ltr	20800 Ltr
(b) From pollution control facilities	---N.A---	---N.A---

PART – E
Solid Waste

	Total Quantity (MT.)	
	During the Previous financial year (2019-20)	During the current financial year (2020-21)
(a) From process	915839	889480
(b) From pollution control facilities		
(c) (1) Quantity recycled or re-utilized within the unit.	Nil	Nil
(2) Solid (Free sold to ash based manufacturer)	915940	915367
(3) Disposed (In Ash Pond)	101 <small>*Taken from ash pond</small>	25887 <small>*Taken from ash pond</small>

PART – F

Please specify the characterizations (in terms of composition and quantity) of hazardous as well as solid and indicate disposal practice adopted for both these categories of wastes.

1. Characterizations of Hazardous waste: - USED Lubricating Oil
2. Disposal Method: - --- N.A --- (Selling to CPCB approved used Oil recycler)
3. Characterizations of solid waste: - The constituents of fly ash and bottom ash generated are enclosed herewith – Annexure – I
4. Disposal Method: -
 - (a) Dry Ash Disposal: - Fly ash & bed ash is collected in silos & dispose through closed container.
 - (b) Ash utilized / disposal off as under.
 - (i) Giving to nearby cement industries and manufacturing of ash based products like bricks etc.
 - (ii) Utilized in miscellaneous work like concrete, approach road, filling in low-lying area etc. in the power plant.

PART – G

Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of production.

1. Adopted Dry Ash Disposal
 - (a) Reduce the cost of generation.
 - (b) Reduce consumption of water.
 - (c) Appropriate utilization
2. Using high purity lime for reduction and controlling of SO₂ emission.
3. CFBC technology is adopted for reduction and controlling of NO_x emission.
4. High efficiency electro static precipitators (ESP) are installed with 99.9 % efficiency.

5. A 122-meter-high Chimney is erected for better dispersion of emission.
6. Continuous emission monitors (CEMS) are installed to monitor the emission levels from stacks.
 - Three Continuous ambient air quality monitoring stations (CAAQMS) are installed inside the plant area to monitor the ambient air quality.
 - Three continuous ambient air quality monitoring station (CAAQMS) are installed outside the surrounding plant area to monitor the ambient air quality.
6. For reducing fugitive emission. Dust extraction systems are provided at each transfer points of coal conveyer belt, ash handling system. Bag filters are provided at strategic locations.
7. For reuse of waste water generated – Effluent Treatment Plant is in operation
8. Dust Suppression Water Spraying system at Ash Pond & Lignite area provided for fugitive emission control.

PART – H

Additional measure / investment proposal for environmental protection including abatement of pollution prevention of pollution.

- 1) A green belt had been developed all around the plant boundary and ash pond covering an area of more than 154 Ha to control fugitive emission and sound pollution.
- 2) Three Continuous Ambient Air Quality Monitoring Stations (CAAQMS) installed outside the plant area in the impact zone.
- 3) RCC roads are being provided at all required location within the plant to control fugitive emissions.

For JSW Energy (Barmer) Limited.



(VINOD KUMAR JINDAL)
AGM- LHS, ENV. & CHEM.

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

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-20	Average	254.5	114.1	69.1
	Max	438.5	163.8	41.4
May-20	Average	381.6	119.0	71.6
	Max	456.3	163.0	76.2
Jun-20	Average	411.8	145.8	67.7
	Max	454.1	173.1	75.1
Jul-20	Average	316.1	106.6	58.1
	Max	427.8	158.3	74.8
Aug-20	Average	344.5	138.8	62.3
	Max	439.7	209.6	71.3
Sep-20	Average	258.6	116.6	57.9
	Max	412.2	170.1	72.4
Oct-20	Average	296.1	142.0	58.4
	Max	387.0	170.3	63.9
Nov-20	Average	462.7	169.2	53.8
	Max	561.0	192	63.5
Dec-20	Average	316.7	326.8	61.4
	Max	461.6	164.0	71.0
Jan-21	Average	248.8	93.0	67.0
	Max	383.8	169.4	75.8
Feb-21	Average	shutdown		
	Max			
Mar-21	Average	412.9	165.0	57.9
	Max	449.2	206.6	66.9

Unit # 2 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-20	Average	302.6	66.3	42.6
	Max	415.4	129.9	48.3
May-20	Average	379.7	100.4	42.0
	Max	424.8	151.9	43.9
Jun-20	Average	377.1	98.2	51.2
	Max	459.8	196.5	69.5
Jul-20	Average	423.5	140.8	49.0
	Max	445.9	191.0	55.8
Aug-20	Average	401.9	142.3	31.3
	Max	451.6	193.7	94.6
Sep-20	Average	389.5	143.5	42.8
	Max	424.5	185.7	75.5
Oct-20	Average	354.8	135.7	55.1
	Max	398.2	243.6	76.4
Nov-20	Average	453.5	183.7	31.5
	Max	544.0	245.0	59.5
Dec-20	Average	229.8	120.1	44.9
	Max	364.5	195.8	53.1
Jan-21	Average	287.2	118.4	38.9
	Max	370.7	226.0	59.0
Feb-21	Average	321.7	151.1	47.5
	Max	375.9	203.9	76.9
Mar-21	Average	338.7	145.8	56.8
	Max	410.1	212.9	74.6

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

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-20	Average	416.4	167.9	41.0
	Max	464.1	227.1	75.0
May-20	Average	420.1	167.7	72.9
	Max	482.6	219.3	75.5
Jun-20	Average	412.4	176.3	74.2
	Max	437.7	203.5	75.6
Jul-20	Average	419.0	188.0	69.2
	Max	451.9	216.7	75.2
Aug-20	Average	423.1	197.0	64.0
	Max	465.7	220.6	72.4
Sep-20	Average	407.0	210.5	67.8
	Max	431.1	230.1	76.2
Oct-20	Average	359.9	194.8	64.6
	Max	431.3	244.4	74.7
Nov-20	Average	380.1	183.9	64.8
	Max	454.3	228.9	73.4
Dec-20	Average	393.8	135.5	65.0
	Max	464.6	226.6	76.2
Jan-21	Average	340.3	124.1	38.3
	Max	439.6	179.2	60.2
Feb-21	Average	378.7	161.9	62.7
	Max	429.0	191.1	78.5
Mar-21	Average	365.3	170.8	72.9
	Max	448.6	213.3	76.2

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

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-20	Average	328.6	60.1	47.1
	Max	456.3	153.5	68.5
May-20	Average	426.1	148.1	49.3
	Max	457.7	188.5	81.1
Jun-20	Average	398.9	157.2	41.5
	Max	442.7	201.8	95.8
Jul-20	Average	410.1	125.0	35.4
	Max	457.8	184.3	45.3
Aug-20	Average	375.3	140.5	45.1
	Max	43.9	182.0	85.9
Sep-20	Average	390.5	152.4	48.4
	Max	446.4	208.4	59.9
Oct-20	Average	410.0	159.2	57.3
	Max	530.0	256.4	77.1
Nov-20	Average	420.6	157.5	47.6
	Max	460.9	197.6	77.7
Dec-20	Average	397.8	150.6	57.6
	Max	428.6	179.4	85.9
Jan-21	Average	387.44	138.8	53.3
	Max	474.3	195.5	75.3
Feb-21	Average	394.5	205.7	50.9
	Max	581.5	224.3	72.7
Mar-21	Average	457.7	204.5	51.2
	Max	580.5	261.8	79.9

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

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-20	Average	421.7	96.5	49.5
	Max	464.7	140.6	57.0
May-20	Average	410.5	107.2	63.3
	Max	463.8	179.0	70.6
Jun-20	Average	365.5	64.0	55.5
	Max	415.5	171.3	63.1
Jul-20	Average	396.2	132.8	48.1
	Max	463.2	273.4	55.5
Aug-20	Average	387.3	153.0	45.2
	Max	464.5	232.1	73.9
Sep-20	Average	386.9	170.2	37.1
	Max	446.5	255.8	47.7
Oct-20	Average	359.4	133.1	36.0
	Max	430.9	243.1	52.4
Nov-20	Average	386.7	77.3	52.4
	Max	454.4	130.9	70.2
Dec-20	Average	350.4	80.2	66.7
	Max	416.2	148.4	77.3
Jan-21	Average	355.6	92.0	49.9
	Max	418.1	170.1	62.5
Feb-21	Average	365.5	81.2	62.9
	Max	415.9	138.9	75.9
Mar-21	Average	411.3	141.9	75.9
	Max	558.8	191.9	79.6

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

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-20	Average	341.3	72.9	53.8
	Max	461.2	149.0	60.9
May-20	Average	399.5	110.0	66.7
	Max	456.7	255.1	77.3
Jun-20	Average	361.9	77.6	41.2
	Max	424.5	249.5	57.6
Jul-20	Average	405.3	163.1	48.7
	Max	448.9	237.5	58.5
Aug-20	Average	354.3	137.6	39.4
	Max	451.8	202.0	65.4
Sep-20	Average	416.6	160.2	43.2
	Max	460.2	210.2	49.0
Oct-20	Average	377.0	140.6	52.7
	Max	418.4	168.0	57.0
Nov-20	Average	327.4	83.3	54.8
	Max	417.6	111.6	60.4
Dec-20	Average	360.0	94.4	57.0
	Max	415.8	171.4	59.2
Jan-21	Average	314.0	114.3	57.7
	Max	426.4	240.5	62.0
Feb-21	Average	365.1	203.2	67.2
	Max	434.3	264.8	72.2
Mar-21	Average	364.3	71.1	74.4
	Max	421.6	110.1	75.9

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

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-20	Average	293.5	61.4	52.9
	Max	422.2	98.2	58.2
May-20	Average	318.5	106.6	61.0
	Max	439.5	192.4	62.6
Jun-20	Average	347.5	85.9	62.7
	Max	442.6	180.5	71.9
Jul-20	Average	424.7	77.0	61.9
	Max	456.7	81.1	68.2
Aug-20	Average	368.7	96.7	59.0
	Max	456.4	166.8	74.9
Sep-20	Average	366.6	98.5	62.4
	Max	425.2	150.8	74.7
Oct-20	Average	400.5	95.5	70.0
	Max	473.5	181.6	75.7
Nov-20	Average	452.1	69.7	55.7
	Max	501.2	87.6	76.1
Dec-20	Average	416.1	81.9	37.2
	Max	463.9	100.6	38.7
Jan-21	Average	398.1	64.5	43.5
	Max	494.7	127.4	59.6
Feb-21	Average	411.8	95.0	66.6
	Max	483.9	136.4	74.4
Mar-21	Average	450.0	130.8	48.9
	Max	487.1	162.4	75.6

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

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-20	Average	371.7	110.0	47.5
	Max	435.2	149.0	52.1
May-20	Average	197.9	125.1	52.5
	Max	455.2	197.7	54.7
Jun-20	Average	349.8	113.2	55.7
	Max	442.6	196.1	60.1
Jul-20	Average	423.5	151.9	56.5
	Max	456.7	162.1	68.2
Aug-20	Average	353.0	148.4	50.4
	Max	441.4	222.2	53.7
Sep-20	Average	379.1	82.6	50.8
	Max	440.0	112.6	52.8
Oct-20	Average	415.5	82.8	64.0
	Max	494.0	114.9	69.9
Nov-20	Average	474.6	65.4	57.4
	Max	566.7	79.4	81.0
Dec-20	Average	402.7	84.1	50.5
	Max	511.4	126.8	53.3
Jan-21	Average	436.0	98.7	53.2
	Max	476.9	113.8	73.4
Feb-21	Average	445.3	101.0	49.6
	Max	484.9	171.8	58.4
Mar-21	Average	471.4	148.6	64.9
	Max	498.4	182.7	93.0

ANNEXURE- III**Water Utilization Data- April 2020 – MAR 2021**

Month	Inlet Water-Total Consumed (For Industrial Cooling + DM water + Domestic)	Water Consumed for Industrial Cooling	For DM water Process	Domestic Water Consumption
	(KL)	(KL)	(KL)	(KL)
Apr-20	1444800	1411470	30300	3030
May-20	1519304	1479437	36674	3193
Jun-20	1551713	1515739	33034	2940
Jul-20	1532252	1491081	37947	3224
Aug-20	1431395	1379550	48590	3255
Sep-20	1633517	1589443	41134	2940
Oct-20	1495436	1445510	46857	3069
Nov-20	1312960	1264233	45547	3180
Dec-20	1338902	1300370	35401	3131
Jan-21	1179046	1131036	44910	3100
Feb-21	1232770	1194000	36026	2744
Mar-21	1498829	1453293	42405	3131
Total	17170924	16655162	478825	36937

Effluent Water Quality APR, 2020 – March, 2021

ANNEXURE- IV

Effluent Water Quality APR, 2020 – March, 2021

ANNEXURE-V

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

(For the Period from April, 2020 to March, 2021)

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

Sl. No.	Month	ASH GENERATION AND UTILIZATION					Mode of Ash Utilization and Utilization in Each Mode (IN LAKH TON)					
		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)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(15)	(16)	(17)	
1	APRIL	4.37913	0.0901	12.77	0.63844	0.69152	108.31	0.01387	0.03771	0.63995		
2	MAY	4.89457	0.1324	11.10	0.65974	0.62839	95.25	0.12210	0.50628	0.00000		
3	JUNE	5.21775	0.1538	11.26	0.72304	0.77678	107.43	0.16132	0.61547	0.00000		
4	JULY	5.34850	0.0457	11.79	0.67084	0.57973	86.42	0.07554	0.41867	0.08552		
5	AUGUST	5.08022	0.1595	11.47	0.72303	0.74925	103.63	0.14196	0.56553	0.04177		
6	SEPTEMBER	5.82330	0.2031	11.49	0.84774	0.96922	114.33	0.22717	0.74205	0.00000		
7	OCTOBER	5.06853	0.2224	11.45	0.77605	0.92370	119.03	0.19381	0.72989	0.00000		
8	NOVEMBER	4.74232	0.1562	13.26	0.76632	0.79782	104.11	0.15211	0.64571	0.00000		
9	DECEMBER	5.16999	0.2027	13.50	0.87648	0.92826	105.91	0.17256	0.75570	0.00000		
10	JANUARY	4.29114	0.1660	10.59	0.60061	0.59996	99.89	0.14200	0.45796	0.00000		
11	FEBRUARY	4.39401	0.1852	13.36	0.75002	0.70631	94.17	0.17129	0.53502	0.00000		
12	MARCH	5.01613	0.1952	13.77	0.86247	0.80272	93.07	0.19117	0.61155	0.00000		
TOTAL		59.4255984	1.9122	12.14	8.89480	9.15367	102.91	1.76491	6.62153	0.76724	0.000	0.000

ANNEXURE-VI**FORM 4**

[See rules 6(5), 13(8), 16(6) and 20 (2)]

FORM FOR FILING ANNUAL RETURNS

[To be submitted to State Pollution Control Board by 30th day of June of every year for the preceding period April to March]

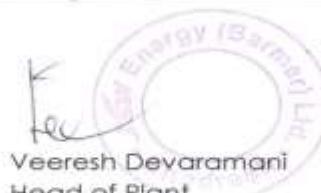
1. Name and address of the occupier or operator of a facility: **JSW Energy (Barmer) Limited, Dist. – Barmer-344 001**

2. Details of Authorization no., Person Production for hazardous waste generation:

Sr. No.	Authorisation No. and Date of issue	Name of the authorised person and full address with telephone, fax number and e-mail:	Production during the year (product wise), wherever applicable
1.	RPCB/HWM/2020-2021/CPM/HSW/32 & Date 11/01/2021.	Mr. Vinod Kumar Jindal JSW ENERGY (BARMER)LIMITED, Village & Po. BHADRESH Dist.: BARMER, Rajasthan – 344 001 Telephone: 91 2982 229 100 Fax: + 91 2982 229 222	20800 Kg Used Lubricating Oil

3. Details filled by hazardous waste generators: **2020-21**

Sr. No.	Total quantity of waste generated category wise	Quantity dispatched	Quantity utilised in-house, if any - Site of disposal (attach a sketch showing the location (s) of disposal)			Quantity in storage at the end of the year
			To disposal facility	To recycler or co-processors or pre-processor	others	
1.	20800 Kg Used or Spent Oil, [Sch. (I) Code: 5.1	20800 Kg	Not Applicable	NIL (Not stored)	Nil	NA



Veeresh Devaramani
Head of Plant
JSW Energy (Barmer) Limited
Bhadresh – Barmer 344 011