



JSW Energy (Barmer) Limited

Vill. & Post : Bhadresh, Post Box
No.30, Distt : Barmer-344001 (Raj.)
CIN: U31102MH1996PLC185098
Phone: +91 2982 229100
Fax : +91 2982 229222
Website : www.jsw.in

Ref: JSWE(B)L/ENV/2023-24/009

Date: 19.06.2023

To,

**Member Secretary
Rajasthan State Pollution Control Board
4-Institutional Area, Jhalana Doongari,
Jaipur - 302004**

Sub: Environmental Statement 2022 – 2023.

UNIT ID – 5276

Dear Sir,

We herewith enclose duly filled Form-V of Environmental statement of JSWE(B)L for the financial year 2022 - 2023.

Please acknowledge the same.

Thanking You,
Your Faithfully

For JSW Energy (Barmer) Ltd.

Vinod Kumar Jindal
Dy. General Manager – Environment & Chemistry

Enclosure

Form – V

- Annexure I Characterization of Solid Waste – Fly ash & Bed Ash
- Annexure_II CEMSDateforAllEightUnits
- Annexure_III Water Utilization Data
- Annexure_IV Effluent Water Quality
- Annexure_V Ash ManagementData
- Annexure VI Form–4 of Haz. Waste Management

CC. Regional Officer, RSPCB - Balotara

FORM - V
(See Rule 14)

From:

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

To:

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

Environmental Statement for the financial year 2022-2023

PART – A

- | | | |
|-------|--|---|
| (i) | Name and address of the owner / occupier of the industry operation or process | : VEERESH DEVARAMINI
JSW Energy (Barmer)
Limited Village- Bhadresh,
Tehsil- Barmer.
Dist. – Barmer-344 001 |
| (ii) | Industry category –
Primary – (STC Code)
Secondary – (SIC Code) | : 8 x 135 MW (1080 MW) Lignite based
Power Plant. |
| (iii) | Production capacity Units | : 8 x 135 MW |
| (iv) | Year of establishment | : 28.2.2007 |
| (v) | Date of the last Environmental Statement submitted | : 27.06.2022 |

PART – B

Water and Raw Material Consumption

(1) Water consumption M³ / day

Water Consumption (m ³ /day)	During the Previous financial year (2021-22)	During the current financial year (2022-23)
Process (for DM Water)	1382	1627
Cooling (From CW)	48961	45813
Domestic	102	104

Name of Products	Raw water consumption	
	During the Previous financial year (2021-22)	During the current financial year (2022-23)
Power - KL/MW	2.54	2.63

(ii) Raw material consumption

Name of raw material	Name of products	Consumption of raw material per unit of output	
		During the Previous financial year (2021-22)	During the current financial year (2022-23)
		(1)	(2)
Coal Cons. MT/MW	Power	0.834	0.820
Oil Cons. KL/MW		0.00008	0.000077

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	44.22 mg/lit	Within limit
		Oil & Grease	< 0.18 mg/lit	
		Total Copper	0.0146 mg/lit	
		Total Iron	0.023 mg/lit.	
		Free available Chlorine	<0.2 mg/lit	
		Zinc	0.069 mg/lit	
		Hexavalent Chromium	ND	
		Total Chromium	ND	

(b) Air SPM SO2 NOx		SPM : ⇒ Unit-1 34.9 mg/Nm ³ ⇒ Unit-2 34.6 mg/Nm ³ ⇒ Unit-3 43.3 mg/Nm ³ ⇒ Unit-4 49.1 mg/Nm ³ ⇒ Unit-5 37.0 mg/Nm ³ ⇒ Unit-6 41.0 mg/Nm ³ ⇒ Unit-7 36.3 mg/Nm ³ ⇒ Unit-8 43.8 mg/Nm ³ SO2 : at 6% O2 Ref. ⇒ Unit-1 476.2 mg/Nm ³ ⇒ Unit-2 404.4 mg/Nm ³ ⇒ Unit-3 473.1 mg/Nm ³ ⇒ Unit-4 349.9 mg/Nm ³ ⇒ Unit-5 478.3 mg/Nm ³ ⇒ Unit-6 475.9 mg/Nm ³ ⇒ Unit-7 424.9 mg/Nm ³ ⇒ Unit-8 480.2 mg/Nm ³ NOx : at 6% O2 Ref. ⇒ Unit-1 131.7 mg/Nm ³ ⇒ Unit-2 133.8 mg/Nm ³ ⇒ Unit-3 145.1 mg/Nm ³ ⇒ Unit-4 126.2 mg/Nm ³ ⇒ Unit-5 153.3 mg/Nm ³ ⇒ Unit-6 148.9 mg/Nm ³ ⇒ Unit-7 145.2 mg/Nm ³ ⇒ Unit-8 137.8 mg/Nm ³	<p style="text-align: center;">Within limit</p>
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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 (2021-22)	During the current financial year (2022-23)
(a)	From process		
	(i) Waste oil	9340	15950
	(ii) Used Batteries (lead acid)		
	(iii) Waste Resin		
	(iv) Discarded drum		
(b)	From pollution control facilities	---N.A---	---N.A---

PART – E
Solid Waste

	Total Quantity (MT.)	
	During the Previous financial year (2021-22)	During the current financial year (2022-23)
(a) From process	897181	911807
(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)	846777	947667
(3) Disposed (In Ash Pond)	Nil *Taken from ash pond	35860 *Taken from ash pond

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**
 - (b) Reduce the cost of generation
 - (c) Reduce consumption of water.
 - (d) 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 our side the surrounding pant 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)
DGM- ENV. & CHEM.**

Unit # 1 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-22	Average	512.39	163.56	35.67
	Max	549.21	213.34	44.51
May-22	Average	441.85	127.71	29.56
	Max	566.82	252.73	38.23
Jun-22	Average	478.72	126.79	30.26
	Max	533.14	159.24	39.67
Jul-22	Average	465.06	130.14	31.27
	Max	527.77	187.04	39.98
Aug-22	Average	460.78	107.26	35.16
	Max	533.27	186.61	43.50
Sep-22	Average	497.26	133.72	31.04
	Max	530.56	177.48	45.55
Oct-22	Average	473.44	95.79	33.00
	Max	523.14	140.25	44.58
Nov-22	Average	472.60	129.60	43.24
	Max	525.74	195.31	46.09
Dec-22	Average	484.66	130.83	38.85
	Max	528.74	216.54	44.45
Jan-23	Average	443.00	136.91	33.29
	Max	521.21	186.07	46.13
Feb-23	Average	495.26	151.47	37.63
	Max	536.37	254.48	46.10
Mar-23	Average	489.69	147.10	40.04
	Max	539.84	191.58	45.99

Unit # 2 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-22	Average	424.02	158.40	35.85
	Max	459.98	288.06	42.42
May-22	Average	392.56	170.41	34.07
	Max	459.37	262.69	39.65
Jun-22	Average	360.89	141.61	36.01
	Max	452.84	232.18	43.53
Jul-22	Average	425.78	127.07	27.08
	Max	448.91	179.65	36.19
Aug-22	Average	402.04	161.08	27.46
	Max	450.64	247.55	40.13
Sep-22	Average	441.61	120.77	33.06
	Max	454.37	165.65	46.12
Oct-22	Average	416.17	103.53	34.34
	Max	447.87	148.52	46.21
Nov-22	Average	368.49	125.40	32.83
	Max	441.18	166.21	44.17
Dec-22	Average	398.01	125.15	38.75
	Max	452.70	169.68	46.16
Jan-23	Average	421.91	124.88	38.49
	Max	460.64	164.04	46.37
Feb-23	Average	404.22	111.71	38.05
	Max	450.43	170.75	45.96
Mar-23	Average	396.79	135.83	38.58
	Max	495.38	167.62	44.21

Unit # 3 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-22	Average	486.95	146.12	36.86
	Max	518.19	270.26	45.16
May-22	Average	477.52	199.03	34.93
	Max	518.85	273.85	53.93
Jun-22	Average	446.90	201.05	39.88
	Max	510.21	277.48	54.63
Jul-22	Average	489.54	171.72	48.93
	Max	518.10	205.88	69.55
Aug-22	Average	457.59	122.32	44.55
	Max	523.12	198.44	68.45
Sep-22	Average	487.35	141.15	43.77
	Max	531.75	183.15	73.74
Oct-22	Average	456.57	136.94	39.10
	Max	515.95	209.62	58.22
Nov-22	Average	477.93	116.08	49.77
	Max	517.67	163.13	56.79
Dec-22	Average	505.96	148.94	47.50
	Max	511.94	166.45	52.21
Jan-23	Average	427.48	116.00	44.78
	Max	525.53	169.94	51.46
Feb-23	Average	497.91	112.45	42.86
	Max	521.03	170.65	53.21
Mar-23	Average	465.29	129.56	44.11
	Max	539.92	146.68	57.43

Unit # 4 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-22	Average	406.55	142.50	59.16
	Max	446.38	243.97	69.69
May-22	Average	391.25	91.82	72.70
	Max	464.24	244.51	76.23
Jun-22	Average	356.45	121.29	64.43
	Max	449.45	196.62	77.33
Jul-22	Average	322.10	116.33	48.97
	Max	425.12	173.17	63.54
Aug-22	Average	311.94	111.60	49.85
	Max	502.21	168.05	75.19
Sep-22	Average	444.54	100.20	54.80
	Max	510.51	111.01	70.76
Oct-22	Average	SHUT DOWN		
	Max			
Nov-22	Average	242.38	119.61	46.15
	Max	345.21	169.95	51.56
Dec-22	Average	397.52	147.71	43.95
	Max	523.60	222.45	50.53
Jan-23	Average	349.77	135.62	45.64
	Max	545.04	124.32	49.94
Feb-23	Average	294.62	136.71	43.59
	Max	453.75	515.52	51.69
Mar-23	Average	431.84	162.05	46.50
	Max	544.17	187.18	53.96

Unit # 5 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-22	Average	Shut down		
	Max			
May-22	Average	477.97	138.77	39.12
	Max	535.10	277.11	58.58
Jun-22	Average	509.88	168.12	40.04
	Max	529.49	258.75	48.97
Jul-22	Average	501.04	120.08	41.39
	Max	524.24	221.16	48.81
Aug-22	Average	498.13	127.55	45.32
	Max	532.91	227.76	57.23
Sep-22	Average	502.91	102.27	33.74
	Max	532.20	213.01	49.23
Oct-22	Average	446.98	138.76	32.92
	Max	526.90	189.45	43.55
Nov-22	Average	477.34	202.69	20.94
	Max	526.59	236.23	37.12
Dec-22	Average	462.26	191.00	39.07
	Max	548.41	232.38	45.41
Jan-23	Average	455.40	169.70	39.01
	Max	536.43	243.20	49.39
Feb-23	Average	457.63	170.51	35.11
	Max	524.35	236.84	44.25
Mar-23	Average	471.88	156.53	40.81
	Max	555.56	229.31	54.54

Unit # 6 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m ³	NOX mg/m ³	SPM mg/m ³
Apr-22	Average	495.80	131.49	37.88
	Max	518.51	160.47	45.59
May-22	Average	460.91	129.15	43.61
	Max	524.51	211.17	46.17
Jun-22	Average	479.63	145.63	43.33
	Max	535.61	209.29	46.11
Jul-22	Average	516.01	125.57	35.97
	Max	538.58	193.08	46.23
Aug-22	Average	466.11	131.93	37.32
	Max	518.15	218.55	45.11
Sep-22	Average	446.98	150.0	46.66
	Max	516.13	274.48	51.25
Oct-22	Average	423.87	126.90	35.52
	Max	514.51	250.73	46.36
Nov-22	Average	498.68	178.02	43.59
	Max	526.82	285.61	46.50
Dec-22	Average	467.92	178.68	43.01
	Max	542.27	262.53	46.38
Jan-23	Average	484.13	190.94	41.35
	Max	547.67	288.27	46.38
Feb-23	Average	455.60	137.02	38.63
	Max	544.18	222.54	45.99
Mar-23	Average	518.46	162.18	45.44
	Max	545.35	227.91	46.34

Unit # 7 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-22	Average	501.30	140.31	42.34
	Max	525.74	288.33	46.11
May-22	Average	410.58	184.85	29.24
	Max	510.90	276.43	43.54
Jun-22	Average	417.11	127.37	39.40
	Max	509.67	266.80	46.03
Jul-22	Average	424.41	119.76	26.49
	Max	517.02	143.77	45.93
Aug-22	Average	437.26	147.88	35.80
	Max	492.82	216.83	46.10
Sep-22	Average	442.35	177.39	25.77
	Max	510.51	237.70	33.55
Oct-22	Average	415.19	115.44	38.05
	Max	477.83	173.89	45.53
Nov-22	Average	404.41	162.97	42.06
	Max	462.99	264.66	46.12
Dec-22	Average	416.90	147.62	40.51
	Max	470.04	225.13	46.10
Jan-23	Average	420.81	123.56	36.71
	Max	498.88	164.04	45.91
Feb-23	Average	418.14	137.78	38.36
	Max	488.88	229.90	46.09
Mar-23	Average	391.09	157.00	41.19
	Max	494.77	172.00	46.12

Unit # 8 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-22	Average	483.82	124.26	46.89
	Max	521.35	166.91	50.88
May-22	Average	445.44	142.45	43.24
	Max	513.83	232.06	51.79
Jun-22	Average	498.38	139.90	44.66
	Max	513.50	243.06	55.01
Jul-22	Average	480.82	123.53	42.37
	Max	525.75	209.20	55.95
Aug-22	Average	454.39	136.20	31.91
	Max	522.91	223.15	38.00
Sep-22	Average	497.11	170.17	29.19
	Max	524.26	228.69	37.84
Oct-22	Average	491.75	130.77	50.04
	Max	523.78	137.07	60.94
Nov-22	Average	451.62	151.24	51.57
	Max	528.03	214.40	55.72
Dec-22	Average	487.65	140.33	49.87
	Max	518.21	236.87	56.03
Jan-23	Average	496.13	133.71	46.48
	Max	529.76	161.80	52.45
Feb-23	Average	510.34	134.78	41.27
	Max	533.80	220.47	51.54
Mar-23	Average	465.27	125.88	47.89
	Max	530.19	181.33	54.90

Water Utilization Data- April 2022 – MAR 2023

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-22	1258625	1219310	36117	3198
May-22	1760580	1706647	50848	3085
Jun-22	1492523	1438650	50667	3206
Jul-22	1395349	1336064	56022	3263
Aug-22	1362107	1311718	47265	3124
Sep-22	1355900	1308382	44395	3123
Oct-22	1315019	1256983	54908	3128
Nov-22	1336755	1282869	50782	3104
Dec-22	1230633	1177945	49615	3074
Jan-23	1516523	1460972	52327	3224
Feb-23	1668175	1616029	48947	3199
Mar-23	1661410	1606262	51933	3215
Total	17353599	16721831	593826	37943

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

(For the Period from April, 2022 to March, 2023)

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 Utilisation and Utilisation 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)	(15)	(16)	(17)	
1	April- 22	3.6261	0.0908	13.75	0.578	0.569	98.409	0.1511	0.4182			
2	May- 22	4.9846	0.0881	11.93	0.672	0.705	104.851	0.1926	0.5122			
3	June-22	5.0511	0.0758	14.53	0.801	0.791	98.739	0.2238	0.5667			
4	July- 22	5.1383	0.0674	14.88	0.824	0.793	96.261	0.1839	0.6092			
5	Aug- 22	5.0869	0.0653	13.55	0.747	0.657	87.992	0.1497	0.5075			
6	Sep- 22	4.9255	0.0435	14.63	0.759	0.709	93.428	0.2012	0.5079			
7	Oct- 22	4.6597	0.0484	13.45	0.66957	0.62791	93.78	0.15414	0.47377			
8	Nov- 22	5.1665	0.0479	15.20	0.82766	0.78347	94.66	0.20932	0.57416			
9	Dec- 22	5.0915	0.0711	14.75	0.81356	1.11279	136.78	0.47848	0.63431			
10	Jan- 23	5.4550	0.0689	14.36	0.84387	0.94557	112.05	0.35636	0.58921			
11	Feb- 23	5.3727	0.0587	14.18	0.81354	0.98420	120.98	0.41405	0.57016			
12	Mar- 23	5.2561	0.0874	13.17	0.76894	0.79885	103.89	0.21487	0.58398			
TOTAL		59.81401	0.81330	14.048	9.11807	9.47667	103.9328	2.92947	6.54720	0.0000	0.000	0.000

FORM 4

[See rule (1)]

Format for the submission of returns, regarding disposal of hazardous waste.
(To be submitted to the State Pollution Control Board)

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.	Authorization No. and Date of issue	Name of the authorization person and full address with telephone, fax number and e-mail:	Production during the year (production wise), Wherever application
1.	RPCB/HWM/2020-2021/CPM/HSW/32. 11/01/2021	Mr. Vinod Kumar Jindal JSW ENERGY (BARMER) LIMITED, Village & PO. BHADRESH Dist.: BARMER, Rajasthan – 344001 Telephone: 91 2982 229 100 Fax: 2982 229 222	15950 Kg Used Lubrication Oil

2. Details filled by hazardous waste generations: **2022 - 23**

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 recycle or co-processors or pre-processor	Other	
1	15950 Kg Used Spent Oil, (Sch. (I) Code: 5.1	15950 Kg	Not application	Nil (Not stored)	Nil	NA


 VIJAY CHINTALA
 Head of Plant
 JSW Energy (Barmer) Limited
 Bhadresh – Barmer 344 011