



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/2022-23/011

Date: 27.06.2022

To,

Member Secretary

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

Sub: Environmental Statement 2021 – 2022.

UNIT ID – 5276

Dear Sir,

We herewith enclose duly filled form – V of Environmental statement of JSWE(B)L for the financial year 2021 - 2022.

Please acknowledge the same.

Thanking you,
Yours 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 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
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 2020-2021

PART – A

- (i) **Name and address of the owner / occupier of the industry operation or process** : **SURYA PRAKASH**
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** : **20.06.2021**

PART – B

Water and Raw Material Consumption

(1) Water consumption M³/day

Water Consumption (m ³ /day)	During the Previous financial year (2020-21)	During the current financial year (2021-22)
Process (for DM Water)	1312	1382
Cooling (From CW)	45631	48961
Domestic	101	102

Name of Products	Raw water consumption	
	During the Previous financial year (2020-21)	During the current financial year (2021-22)
Power - KL/MW	2.46	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 (2020-21)	During the current financial year (2021-22)
		(1)	(2)
Coal Cons. MT/MW		0.846	0.834
Oil Cons. KL/MW	Power	0.00010	0.00008

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	34.5.0 mg/lit	Within limit
		Oil & Grease	2.27 mg/lit	
		Total Copper	0.0146 mg/lit	
		Total Iron	0.33 mg/lit.	
		Free available Chlorine	<0.2 mg/lit	
		Zinc	0.267 mg/lit	
		Hexavalent Chromium	ND	
		Total Chromium	ND	

(b) Air SPM SO ₂ NO _x	<p>SPM :</p> <ul style="list-style-type: none"> ⇒ Unit-1 48.2mg/Nm³ ⇒ Unit-2 43.9mg/Nm³ ⇒ Unit-3 41.5mg/Nm³ ⇒ Unit-4 52.1mg/Nm³ ⇒ Unit-5 51.5mg/Nm³ ⇒ Unit-6 42.6mg/Nm³ ⇒ Unit-7 47.3mg/Nm³ ⇒ Unit-8 52.9mg/Nm³ <p>SO₂ : at 6% O₂ Ref.</p> <ul style="list-style-type: none"> ⇒ Unit-1 349.2 mg/Nm³ ⇒ Unit-2 439.1 mg/Nm³ ⇒ Unit-3 419.9 mg/Nm³ ⇒ Unit-4 404.2 mg/Nm³ ⇒ Unit-5 401.9 mg/Nm³ ⇒ Unit-6 425.8 mg/Nm³ ⇒ Unit-7 449.7 mg/Nm³ ⇒ Unit-8 471.4 mg/Nm³ <p>NO_x : at 6% O₂ Ref.</p> <ul style="list-style-type: none"> ⇒ Unit-1 140.3 mg/Nm³ ⇒ Unit-2 139.8 mg/Nm³ ⇒ Unit-3 148.9 mg/Nm³ ⇒ Unit-4 201.4 mg/Nm³ ⇒ Unit-5 209.4 mg/Nm³ ⇒ Unit-6 198.2 mg/Nm³ ⇒ Unit-7 143.2 mg/Nm³ ⇒ Unit-8 178.4 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 (2020-21)	During the current financial year (2021-22)
(a) From process <ul style="list-style-type: none"> (i) Waste oil (ii) Used Batteries (lead acid) (iii) Waste Resin (iv) Discarded drum 	20800 Ltr	9340 Ltr
(b) From pollution control facilities	---N.A---	---N.A---

PART – E
Solid Waste

	Total Quantity (MT.)	
	During the Previous financial year (2020-21)	During the current financial year (2021-22)
(a) From process	889480	897181
(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)	915367	846777
(3) Disposed (In Ash Pond)	25887 *Taken from ash pond	nil *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 Oilrecycler)
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 NOx 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.

ANNEXURE- II

Unit # 1 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-21	Average	409	167	49.7
	Max	454	204	73.0
May-21	Average	426	163	52.3
	Max	449	181	65.3
Jun-21	Average	399	134	45.9
	Max	442	185	57.8
Jul-21	Average	430	119	41.4
	Max	465	181	57.1
Aug-21	Average	447	141	39.1
	Max	477	203	52.6
Sep-21	Average	366	153	41.5
	Max	497	235	73.1
Oct-21	Average	404	174	48.5
	Max	470	237	60.0
Nov-21	Average	444	136	36.0
	Max	528	197	40.6
Dec-21	Average	487	144	33.6
	Max	556	272	38.0
Jan-22	Average	497	169	31.6
	Max	535	211	38.6
Feb-22	Average	525	146	30.04
	Max	538	197	46.13
Mar-22	Average	486	147	29.61
	Max	535	195	38.29

Unit # 2 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-21	Average	354	133	20.3
	Max	381	214	78.6
May-21	Average	340	173	55.5
	Max	371	254	75.8
Jun-21	Average	350	187	46.0
	Max	372	241	70.2
Jul-21	Average	357	135	62.5
	Max	394	214	75.1
Aug-21	Average	381	149	66.6
	Max	406	233	76.5
Sep-21	Average	302	136	53.6
	Max	382	180	66.6
Oct-21	Average	382	141	40.9
	Max	402	194	52.2
Nov-21	Average	371	115	36.1
	Max	450	246	44.7
Dec-21	Average	437	132	30.6
	Max	453	206	43.9
Jan-22	Average	439	107	32.1
	Max	450	156	39.6
Feb-22	Average	428	143	27.97
	Max	451	207	43.19
Mar-22	Average	417	191	36.09
	Max	447	260	46.12

Unit # 3 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-21	Average	390	167	69.4
	Max	441	199	76.0
May-21	Average	412	153	71.7
	Max	445	194	75.7
Jun-21	Average	389	138	64.5
	Max	434	187	75.4
Jul-21	Average	416	159	74.0
	Max	432	191	76.7
Aug-21	Average	436	126	70.3
	Max	484	173	76.1
Sep-21	Average	345	121	62.4
	Max	461	177	85.3
Oct-21	Average	392	134	40.4
	Max	464	187	60.6
Nov-21	Average	426	111	48.0
	Max	515	221	53.6
Dec-21	Average	463	135	42.3
	Max	514	178	50.0
Jan-22	Average	472	95	54.6
	Max	506	197	56.8
Feb-22	Average	461	147	57.43
	Max	510	225	74.24
Mar-22	Average	444	117	50.57
	Max	510	157	75.79

ANNEXURE-II

Unit # 4 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-21	Average	402	182	56.9
	Max	440	223	76.5
May-21	Average	405	136	47.0
	Max	454	184	69.4
Jun-21	Average	364	117	41.7
	Max	430	162	54.6
Jul-21	Average	366	99	48.1
	Max	435	157	59.6
Aug-21	Average	413	152	54.4
	Max	464	207	62.1
Sep-21	Average	302	97	51.8
	Max	435	270	61.6
Oct-21	Average	350	66	52.9
	Max	430	96	68.8
Nov-21	Average	392	123	40.1
	Max	520	212	47.6
Dec-21	Average	458	103	39.2
	Max	505	125	50.8
Jan-22	Average	463	98	58.0
	Max	503	107	74.8
Feb-22	Average	407	94	57.70
	Max	486	131	78.46
Mar-22	Average	384	128	56.73
	Max	418	181	67.86

ANNEXURE- II

Unit # 5 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-21	Average	374	140	68.9
	Max	413	169	76.8
May-21	Average	376	110	40.8
	Max	424	242	54.9
Jun-21	Average	389	161	41.2
	Max	427	251	55.4
Jul-21	Average	415	160	49.1
	Max	446	237	73.0
Aug-21	Average	436	195	56.5
	Max	479	258	70.1
Sep-21	Average	259	149	65.8
	Max	452	239	74.9
Oct-21	Average	425	177	40.6
	Max	452	256	53.0
Nov-21	Average	398	130	42.8
	Max	521	165	56.0
Dec-21	Average	523	160	58.7
	Max	535	276	67.3
Jan-22	Average	501	129	53.0
	Max	527	195	78.9
Feb-22	Average	513	148	52.78
	Max	538	199	79.52
Mar-22	Average	487	123	40.63
	Max	530	175	73.10

ANNEXURE- II

Unit # 6 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-21	Average	236	160	18.1
	Max	364	212	22.2
May-21	Average	341	226	48.7
	Max	444	276	72.1
Jun-21	Average	374	133	43.6
	Max	421	257	57.2
Jul-21	Average	374	126	48.9
	Max	436	219	57.2
Aug-21	Average	430	125	46.4
	Max	482	242	65.9
Sep-21	Average	294	199	40.6
	Max	436	261	53.4
Oct-21	Average	404	128	45.8
	Max	449	236	78.0
Nov-21	Average	422	169	35.5
	Max	539	218	46.1
Dec-21	Average	490	175	42.8
	Max	524	287	46.1
Jan-22	Average	474	98	37.4
	Max	523	204	46.1
Feb-22	Average	486	108	34.69
	Max	532	204	46.08
Mar-22	Average	486	124	38.32
	Max	533	180	46.04

ANNEXURE-II

Unit # 7 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-21	Average	424	168	63.4
	Max	478	211	75.6
May-21	Average	358	140	58.0
	Max	433	216	75.1
Jun-21	Average	414	83	52.3
	Max	429	120	62.1
Jul-21	Average	423	66	71.0
	Max	439	128	76.3
Aug-21	Average	397	113	33.3
	Max	449	247	55.2
Sep-21	Average	230	81	33.9
	Max	264	221	48.0
Oct-21	Average	387	110	54.6
	Max	436	228	75.9
Nov-21	Average	419	79	38.0
	Max	522	101	44.6
Dec-21	Average	502	72	37.4
	Max	524	103	46.1
Jan-22	Average	499	164	37.8
	Max	525	275	46.1
Feb-22	Average	523	179	40.55
	Max	532	247	46.12
Mar-22	Average	465	144	34.32
	Max	529	170	46.09

ANNEXURE-II

Unit # 8 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-21	Average	372	129	56.8
	Max	479	243	67.8
May-21	Average	376	166	61.4
	Max	434	248	77.0
Jun-21	Average	398	116	53.3
	Max	447	175	69.7
Jul-21	Average	410	78	53.9
	Max	448	146	56.7
Aug-21	Average	414	108	54.1
	Max	454	200	58.8
Sep-21	Average	337	129	50.9
	Max	444	187	59.8
Oct-21	Average	397	120	42.5
	Max	446	194	66.0
Nov-21	Average	313	113	39.5
	Max	515	165	46.5
Dec-21	Average	490	132	50.2
	Max	519	184	67.3
Jan-22	Average	450	107	53.3
	Max	515	166	59.3
Feb-22	Average	475	118	45.49
	Max	522	199	58.54
Mar-22	Average	491	148	44.64
	Max	523	221	52.77

ANNEXURE- III

Water Utilization Data- April 2021 – MAR 2022

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-21	1509880	1467784	38993	3103
May-21	1504496	1444972	56544	2980
Jun-21	1649284	1601057	45006	3221
Jul-21	1753162	1713180	36704	3278
Aug-21	1519966	1475686	41171	3109
Sep-21	1510110	1470021	37091	2998
Oct-21	1568631	1524398	41130	3103
Nov-21	1513707	1475837	34791	3079
Dec-21	1354019	1312428	38462	3129
Jan-22	1324920	1281206	40515	3199
Feb-22	1455000	1403537	48359	3104
Mar-22	1750000	1700747	46133	3120
Total	18413175	17870853	504899	37423

Effluent Water Quality APR, 2021 – March, 2022

ANNEXURE- IV

Effluent Water Quality APR, 2021 – March, 2022

ANNEXURE-V

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

(For the Period from April, 2021 to March, 2022)

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 Utilisation and Utilisation 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	4.48321	0.16315	12.61	0.70890	0.65609	92.55	0.13102	0.49336	0.03171		
2	MAY	4.63312	0.09689	15.46	0.80154	0.59351	74.05	0.16676	0.42675	0.00000		
3	JUNE	5.12105	0.11367	13.81	0.80725	0.71696	88.82	0.16992	0.54704	0.00000		
4	JULY	5.71423	0.06148	16.64	1.00495	1.00090	99.60	0.22439	0.61241	0.16410		
5	AUGUST	5.09631	0.02891	16.01	0.84136	0.90330	107.36	0.19705	0.57724	0.12900		
6	SEPTEMBER	5.34512	0.02723	14.15	0.78030	0.79882	102.37	0.15296	0.45161	0.19425		
7	OCTOBER	5.05197	0.02050	11.73	0.61064	0.65021	106.48	0.15863	0.49159	0.00000		
8	NOVEMBER	5.70813	0.02585	15.56	0.91093	0.62612	68.73	0.13370	0.34724	0.14518		
9	DECEMBER	4.53747	0.03199	11.25	0.53861	0.59508	110.48	0.12630	0.46878	0.00000		
10	JANUARY	4.59471	0.06773	10.85	0.55793	0.53645	96.15	0.17602	0.36043	0.00000		
11	FEBRUARY	4.51111	0.04830	13.51	0.65196	0.65858	101.02	0.16704	0.49155	0.00000		
12	MARCH	5.07533	0.11154	12.99	0.75744	0.73176	96.61	0.19328	0.53847	0.00000		
TOTAL		59.87175	0.79723	13.81	8.97181	8.46777	94.38	1.9970680	5.8064649	0.6642414	0.000	0.000

ANNEXURE-VI**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	9340 Kg Used Lubrication Oil

2. Details filled by hazardous waste generations: **2021 - 22**

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	9340 Kg Used Spent Oil, (Sch. (I) Code: 5.1	9340 Kg	Not application	Nil (Not stored)	Nil	NA


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