

**Energy (Barmer) Limited**

(Formerly : Raj WestPower Limited)

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

Distt : Barmer – 344001 (Rajasthan)

CIN : U31102MH1996PLC185098

Phone : +91 2982 229100

Fax : +91 2982 229222

Website : www.jsw.in

Ref: JSWE(B)L/ENV/19-20/007

Date: 03.05.2019

To,

Member Secretary

Rajasthan State Pollution Control Board

4-Institutional Area, Jhalana Doongari,

Jaipur – 302004

Sub: Environmental Statement 2018 – 2019.

UNIT ID – 5276

Dear Sir,

We herewith enclose duly filled form – V of Environmental statement for the financial year 2018 -2019.

Please acknowledge the same.

Thanking you,

Yours faithfully

For JSW Energy (BARMER) Ltd

Dilip D. Narwani

Dy. General Manager – Environment & Chemistry

Enclosure

Form – V

Annexure _ I Characterization of Solid Waste – Fly ash & Bed Ash

Annexure _ II Effluent Water Quality

Annexure _ III CEMS Data for All Eight Units

Annexure _ IV Ash Management Data

Annexure _ V Water Cess Data

Annexure _ VI Form – 4 of Haz Waste Management

CC. Regional Officer, RSPCB - Balotara



Part of O.P.Jindal Group

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

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

FORM - V
(See Rule 14)

From:

Dilip D Narwani
Dy. Gen. Manager (Env & Chem),
JSW Energy (Barmer) Limited
Formally Raj WestPower 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 2018-2019

PART – A

- | | | | |
|-------|---|---|---|
| (i) | Name and address of the owner / occupier of the industry operation or process | : | Aditya Agarwal
Director
JSW Energy (Barmer) Limited
Formerly Raj WestPower 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 | : | 17.05.2018 |

(b) Air SPM SO ₂ NO _x			
		SPM :	
		Unit-1 45.1 mg/Nm ³	
		Unit-2 50.2 mg/Nm ³	
		Unit-3 46.1 mg/Nm ³	
		Unit-4 45.1 mg/Nm ³	
		Unit-5 46.0 mg/Nm ³	
		Unit-6 47.2 mg/Nm ³	
		Unit-7 47.9 mg/Nm ³	
		Unit-8 48.2 mg/Nm ³	
		SO₂ : at 6% O₂ Ref.	
		Unit-1 466.6 mg/Nm ³	
		Unit-2 497.2 mg/Nm ³	
		Unit-3 472.9 mg/Nm ³	
		Unit-4 441.4 mg/Nm ³	
		Unit-5 487.0 mg/Nm ³	
		Unit-6 434.3 mg/Nm ³	
		Unit-7 508.1 mg/Nm ³	
		Unit-8 452.8 mg/Nm ³	
		NO_x : at 6% O₂ Ref.	
		Unit-1 167.7 mg/Nm ³	
		Unit-2 165.4 mg/Nm ³	
		Unit-3 153.9 mg/Nm ³	
		Unit-4 164.0 mg/Nm ³	
		Unit-5 152.6 mg/Nm ³	
		Unit-6 178.0 mg/Nm ³	
		Unit-7 167.6 mg/Nm ³	
		Unit-8 140.6 mg/Nm ³	
			Within limit

PART – D

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

Hazardous Waste		Total Quantity (Kg.)	
		During the Previous financial year (2017-18)	During the current financial year (2018-19)
(a)	From process		
	(i) Waste oil	32118 Ltr	19392 Ltr
	(ii) Used Batteries (lead acid)		
	(iii) Waste Resin		
	(iv) Discarded drum		
(b)	From pollution control facilities	---N.A---	---N.A---

PART – E –Solid Waste

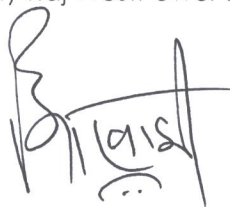
		Total Quantity (MT.)	
		During the Previous financial year (2017-18)	During the current financial year (2018-19)
(a)	From process	973175	877324
(b)	From pollution control facilities		
(c)	(1) Quantity recycled or re-utilized within the unit.	Nil	Nil

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 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
(Formerly Raj WestPower Limited)



(Dilip D Narwani)
Dy. General Manager (Env & Chem)



ANNEXURE-II

Effluent Water Quality 2018 to 2019

SN	Parameters	UoM	CPCB Limits	Results											
				April	May	June	July	Aug	Sep	Oct	Nov	De	Jan	Feb	Mar
1	pH		6.5-8.5	7	7.5	7	7.5	7.1	/	/	7.2	/	7.1	/	6.9
2	Biochemical Oxygen Demand (BOD) @ 27Deg C for 3 days	mg/L	< 30.0	22.8	25.8	23	22.4	24	22.5	20.5	21	22.8	22	22	22.8
3	Chemical Oxygen Demand (COD)	mg/L	< 250	74.5	75.5	76	69.3	76.5	73.5	71	72.3	75.5	74	74.3	79.5
4	Total Kjeldhal Nitrogen as NH3	mg/L	< 100	9.8	8.5	8.5	7.8	8.8	8.8	9.1	8.5	8.3	8.6	8.5	8.5
5	Free Available Chlorine	mg/L	< 0.5	BDL<0.18	BDL<0.18	BDL<0.18	BDL<0.18	BDL<0.18	BDL<0.18	BDL<0.18	BDL<0.18	BDL<0.18	BDL<0.18	BDL<0.18	BDL<0.18
6	Oil & Grease	mg/L	< 20	2.1	2.1	2.2	2.9	2.6	2.6	3.2	2.2	3.1	2.5	1.6	
7	Copper as Cu	mg/L	< 1	0.022	0.012	0.012	0.013	0.017	0.016	0.017	0.047	0.014	0.015	0.02	0.013
8	Zinc as Zn	mg/L	< 1	0.04	0.44	0.36	0.45	0.29	0.36	0.27	0.38	0.37	0.36	0.36	0.31
9	Iron as Fe	mg/L	< 1	0.405	0.438	0.413	0.428	0.405	0.375	0.405	0.433	0.423	0.403	0.41	0.395
10	Total Suspended Solid	mg/L	< 100	44.5	31	34.3	43.5	36	38.5	37.5	37.8	33.5	38.5	34.5	34
11	Ammonical Nitrogen as N	mg/L	< 50	6.4	5.5	5.5	5.4	5.7	5.0	5.9	5.7	5.2	5.6	5.7	4.9
12	Nitrate Nitrogen	mg/L	< 10	2.4	1.8	2	1.7	1.9	2	2.2	2	1.9	2.1	2.1	2
13	Total Chromium as Cr	mg/L	< 1	BDL<0.01	BDL<0.01	BDL<0.01	BDL<0.01	BDL<0.01	BDL<0.01	BDL<0.01	BDL<0.01	BDL<0.01	BDL<0.01	BDL<0.01	BDL<0.01

ANNEXURE-III
Unit # 1 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-18	Average	179	56	45
	Max	243	147	61
May-18	Average	220	90	55
	Max	363	141	78
Jun-18	Average	181	56	39
	Max	310	145	61
Jul-18	Average	188	98	41
	Max	330	151	59
Aug-18	Average	182	122	42
	Max	352	154	60
Sep-18	Average	146	68	43
	Max	217	121	69
OCT- 17	Average	108	41	77
	Max	314	143	79
NOV- 17	Average	134	53	61
	Max	233	93	80
DEC - 17	Average	109	68	24
	Max	346	107	60
JAN-19	Average	161	103	50
	Max	431	138	66
Feb-19	Average	140	116	43
	Max	431	147	73
MAR-19	Average	125	87	36
	Max	298	137	59

Unit # 2 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-18	Average	181	54	51
	Max	383	166	87
May-18	Average	251	76	70
	Max	339	118	99
Jun-18	Average	226	53	50
	Max	505	146	88
Jul-18	Average	S/D	S/D	S/D
	Max	S/D	S/D	S/D
Aug-18	Average	210	89	47
	Max	311	121	62
Sep-18	Average	253	70	53
	Max	449	127	73
Oct-18	Average	133	48	57
	Max	341	151	59
Nov-18	Average	153	49	56
	Max	237	174	60
Dec-18	Average	141	57	56
	Max	255	115	61
Jan-19	Average	141	53	59
	Max	274	174	63
Feb-19	Average	202	78	47
	Max	368	143	79
Mar-19	Average	213	33	40
	Max	557	159	56

Unit # 3 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-18	Average	137	37	57
	Max	162	47	60
May-18	Average	151	61	65
	Max	253	138	72
Jun-18	Average	202	84	66
	Max	408	122	74
Jul-18	Average	163	81	62
	Max	293	151	75
Aug-18	Average	134	106	60
	Max	181	124	68
Sep-18	Average	99	58	72
	Max	263	128	75
Oct-18	Average	194	68	74
	Max	217	88	75
Nov-18	Average	122	39	69
	Max	328	142	71
Dec-18	Average	137	33	3
	Max	437	148	56
Jan-19	Average	195	85	69
	Max	377	125	75
Feb-19	Average	199	102	56
	Max	377	139	75
Mar-19	Average	112	53	35
	Max	457	178	57

Unit # 4 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-18	Average	126	60	69
	Max	154	111	80
May-18	Average	156	75	62
	Max	339	131	79
Jun-18	Average	249	114	66
	Max	419	162	74
Jul-18	Average	158	79	63
	Max	311	133	76
Aug-18	Average	149	69	64
	Max	313	101	79
Sep-18	Average	121	42	69
	Max	183	98	81
Oct-18	Average	122	43	70
	Max	438	149	76
Nov-18	Average	119	51	57
	Max	395	172	77
Dec-18	Average	115	78	56
	Max	322	127	69
Jan-19	Average	132	89	35
	Max	249	114	61
Feb-19	Average	158	88	28
	Max	261	137	61
Mar-19	Average	275	92	30
	Max	430	164	63

Unit # 5 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-18	Average	433	131	38
	Max	447	142	44
May-18	Average	417	121	42
	Max	451	177	47
Jun-18	Average	429	73	45
	Max	451	121	57
Jul-18	Average	376	44	33
	Max	444	71	45
Aug-18	Average	301	48	44
	Max	404	153	54
Sep-18	Average	294	51	43
	Max	436	93	51
Oct-18	Average	308	52	54
	Max	329	164	71
Nov-18	Average	277	71	40
	Max	410	105	50
Dec-18	Average	350	82	53
	Max	456	121	81
Jan-19	Average	377	70	53
	Max	456	95	75
Feb-19	Average	312	80	53
	Max	456	142	87
Mar-19	Average	83	26	45
	Max	408	141	67

Unit # 6 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-18	Average	292	90	57
	Max	436	109	67
May-18	Average	357	37	58
	Max	456	87	75
Jun-18	Average	320	112	68
	Max	458	198	76
Jul-18	Average	258	109	58
	Max	396	146	77
Aug-18	Average	263	85	50
	Max	346	113	53
Sep-18	Average	355	124	47
	Max	458	192	60
Oct-18	Average	394	72	52
	Max	450	102	69
Nov-18	Average	344	114	50
	Max	452	177	68
Dec-18	Average	316	56	40
	Max	452	102	45
Jan-19	Average	298	82	34
	Max	400	137	51
Feb-19	Average	266	123	44
	Max	400	182	55
Mar-19	Average	189	76	49
	Max	286	120	75

Unit # 7 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-18	Average	316	105	48
	Max	414	144	76
May-18	Average	330	101	57
	Max	407	148	76
Jun-18	Average	315	75	68
	Max	387	101	76
Jul-18	Average	352	75	68
	Max	398	108	76
Aug-18	Average	251	70	61
	Max	348	94	80
Sep-18	Average	318	90	57
	Max	404	112	71
Oct-18	Average	349	83	40
	Max	388	88	55
Nov-18	Average	249	76	43
	Max	401	123	53
Dec-18	Average	284	50	47
	Max	409	185	51
Jan-19	Average	313	71	45
	Max	416	97	47
Feb-19	Average	365	84	46
	Max	416	97	47
Mar-19	Average	281	77	46
	Max	376	123	57

Unit # 8 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Apr-18	Average	230	39	69
	Max	384	78	76
May-18	Average	273	33	64
	Max	364	46	76
Jun-18	Average	354	67	66
	Max	445	153	75
Jul-18	Average	194	40	42
	Max	382	56	60
Aug-18	Average	287	74	45
	Max	429	139	51
Sep-18	Average	225	74	47
	Max	394	127	58
Oct-18	Average	368	67	53
	Max	423	175	58
Nov-18	Average	287	75	32
	Max	418	110	62
Dec-18	Average	324	51	54
	Max	429	169	63
Jan-19	Average	261	96	51
	Max	396	131	62
Feb-19	Average	187	64	41
	Max	461	131	66
Mar-19	Average	66	26	30
	Max	433	153	63



Energy (Barmer) Limited

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

(For the Period from April, 2018 to Mar, 2019)

Name of Thermal Power Plant: Raj West Power Limited - Jalpa-Kapurdi Thermal Plant Lignite Coal Base Thermal Plant

ANNEXURE-IV

Sr. No	Ash Generation and Utilisation						Mode of Ash Utilisation and Utilisation in Each Mode (IN LAKH TON)										
	Month	Coal Consume (Lakh Ton)	Time 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, 18	5.2788	0.226	11.47	0.8043	0.8064	100.30	0.0868	0.6702						0.0494		
2	May, 18	5.8673	0.227	11.41	0.8691	1.0037	115.50	0.0970	0.6174						0.2893		
3	June, 18	5.0788	0.189	11.42	0.7468	1.0101	135.30	0.0995	0.6428						0.2678		
4	July, 18	4.5119	0.223	11.36	0.7091	0.8370	118.00	0.1015	0.7081						0.0273		
5	Aug, 18	5.3274	0.22	11.33	0.7973	1.0049	126.00	0.1031	0.8165						0.0854		
6	Sep, 18	5.1848	0.195	11.28	0.7563	1.0870	143.70	0.1116	0.7995						0.1759		
7	Oct, 18	5.8184	0.220	10.91	0.8278	1.1148	134.67	0.1258	0.8147						0.1743		
8	Nov, 18	4.1670	0.140	10.51	0.5612	0.8824	157.24	0.0871	0.6309						0.1644		
9	Dec, 18	4.0490	0.154	11.00	0.5814	0.7412	127.50	0.1298	0.6114						0.0000		
10	Jan, 19	4.9659	0.209	11.81	0.7702	0.9654	125.35	0.1560	0.7789						0.0305		
11	Feb, 19	3.8171	0.182	11.89	0.6136	0.6792	110.70	0.1209	0.5584						0.0000		
12	Mar, 19	4.7320	0.237	11.15	0.7361	0.8478	115.16	0.7280	0.0000						0.1198		
Total		58.7984	2.422	135.52	8.7731	10.9799	1509.41	1.9471	7.6487	0.0000	0.0000	0.0000	0.0000	0.0000	1.3841	0.0000	0.0000

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



Part of O.P.Jindal Group

Regd. Office: Raj WestPower Ltd., JSW Center, BKC Complex, Bandra (E), Mumbai - 400051
Tel: 022-26100000, 26100001, 26100002, 26100003, 26100004, 26100005, 26100006, 26100007, 26100008, 26100009, 26100010, 26100011, 26100012, 26100013, 26100014, 26100015, 26100016, 26100017, 26100018, 26100019, 26100020, 26100021, 26100022, 26100023, 26100024, 26100025, 26100026, 26100027, 26100028, 26100029, 26100030, 26100031, 26100032, 26100033, 26100034, 26100035, 26100036, 26100037, 26100038, 26100039, 26100040, 26100041, 26100042, 26100043, 26100044, 26100045, 26100046, 26100047, 26100048, 26100049, 26100050, 26100051, 26100052, 26100053, 26100054, 26100055, 26100056, 26100057, 26100058, 26100059, 26100060, 26100061, 26100062, 26100063, 26100064, 26100065, 26100066, 26100067, 26100068, 26100069, 26100070, 26100071, 26100072, 26100073, 26100074, 26100075, 26100076, 26100077, 26100078, 26100079, 26100080, 26100081, 26100082, 26100083, 26100084, 26100085, 26100086, 26100087, 26100088, 26100089, 26100090, 26100091, 26100092, 26100093, 26100094, 26100095, 26100096, 26100097, 26100098, 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ANNEXURE-VWater Cess Data-2018 to 2019

Month	Water Consumed for Industrial Cooling - Boiler Feed	Domestic Water Consumption	Effluent Water Generated	Water Consumption
	(KL)	(KL)	(KL)	(KL)
Apr-18	1437005	2995	34820	1474820
May-18	1689389	3098	38658	1731145
Jun-18	1481929	2831	37011	1521771
Jul-18	1312075	3026	41940	1357041
Aug-18	1458291	2991	28161	1489443
Sep-18	1462027	3001	17301	1482329
Oct-18	1697622	3075	36787	1737484
Nov-18	1325132	2989	31856	1359977
Dec-18	1257500	3093	29308	1289901
Jan-19	1373183	3038	28994	1405215
Feb-19	1112935	2801	25445	1141181
Mar-19	1321811	3079	26375	1351265
Total	16928899	36017	376656	17341572



ANNEXURE-VI

Form 4 of Haz Waste Management- 2018 to 2019

FORM 4

[Schedule - (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 enterprise or generator of a facility: JSW Energy (Barmer) limited, Dist - Barmer-344 001

2. Details of waste disposed of during the year: 2018-19

Sl. No.	Date of issuance of authorization for the disposal of hazardous waste to the relevant members	Description of hazardous waste	Physical form & contents	Total Volume of the hazardous waste disposed with tag and samples	Means of transport to the site of disposal	Name of transporter showing the receipt of disposal	Brief description of the method of disposal	Date of disposal	Remarks (if any)
1	31/03/2019 REC B/10/2016 2019/10/2016/102	Used oil	Used oil in drum	Used oil in drum	Used oil in drum	NA	NA	Used oil in drum will be disposed by selling to RSCMP authorized waste oil recyclers	NA

3. Date of environmental audit: 2019

Date of environmental audit	Analysis of ground water	Analysis of soil samples	Analysis of air samples	Analysis of effluent
	Location of sampling	Depth of sampling	Depth of sampling	Location of sampling
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

(Signature)

For JSW Energy (Barmer) Limited
 Head of Project
 JSW Energy (Barmer) Limited
 Bhavnagar - Barmer - 344 011

Authorised Signatory