JSW Energy (Barmer) Limited
Village & Post : Bhadresh, Post Box No. 30,
Distt : Barmer – 344001 (Rajasthan)
CIN : U31102MH1996PLC185098
Phone : +91 2982 229100
Website : www.jsw.in

Ref: JSWE(B)L/ENV/24-25/024

Date: 05.12.2024

To,

Ministry of Environment Forests & Climate Change,
Integrated Regional Office,
A-209&218, Aranya Bhavan, M. G. Road,
Jaipur-304002, Rajasthan.

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 **APRIL- 2024 to September- 2024**, for the conditions stipulated in the Environmental clearance issued for this Power Project. Analysis Data has uploaded on JSWEBL website – http://www.jsw.in/energy/about-barmer-plant.

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.

Sharad Chandra Totla
GM (Operation & Maintenance)

Enclosure:

1. Compliance Report
2. Water consumption Data **-Annexure I**
3. Effluent Water Data **-Annexure II**
4. Coal Analysis Data **-Annexure III**
5. CEMS & Stack Monitoring DATA **-Annexure IV**
6. Ash Utilization Data **-Annexure V**
7. Noise Monitoring **-Annexure VI**
8. AAQ Monitoring Data **-Annexure VII**
9. Environmental Expenditure **- Annexure VIII**
10. Last Compliance Report **-Annexure IX**

C.C.
The Member Secretary – Central Pollution Control Board, Delhi
The Member Secretary – RSPCB, Jaipur
The Regional Officer – RSPCB, Balotra.

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, 2024- SEP-2024

S.N.	Condition	Status
i	No land in excess of 468 ha shall be acquired for any activity of the project.	Land acquisition has been carried at the time of setting up the Power Project. No additional land been acquired for this Project.
ii	The water requirement for the project shall not exceed 35.5 cusecs. No ground water shall be abstracted for any activity of the project.	Water in excess of the mandated 35.5 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. **ANNEXURE-I**
iii	*Closed Circuit Cooling System with induced draft cooling towers shall be installed.*	Four numbers of closed-circuit cooling tower blocks with induced draft cooling towers have been erected and are in operation.
iv	*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.*	A common **ETP (Aeration – Clarifier – Filtration – Ultra Filtration – Reverse Osmosis)** 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 – **Annexure – II**
v	*Lignite with ash content not exceeding 20% and Sulphur content not exceeding 2.0% shall be used.*	Lignite with ash content less than 20% and Sulphur content less than 2% being used. Third party analysis reports for the same are enclosed. **ANNEXURE-III**
vi	*Space provision for FGD shall be made, if required at a later stage.*	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	*Four stacks of 122 m height each with exit velocity of at least 20 m/s shall be provided with continuous online monitoring system.*	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, SO2, NOx & CO to be within prescribed levels. **ANNEXURE-IV**
viii	*Low NOx burners shall be installed.*	The boiler is designed on Circulating Fluidized Bed Combustion, system attains to very low NOx generation. **ANNEXURE-IV**
ix	*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^3.*	High efficiency ESPs are installed to maintain PM emission levels at less than 100 mg/Nm^3. **ANNEXURE-IV**
xi	*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.*	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 & 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. **Ash Utilization data ANNEXURE-V**
xii	*Ash pond shall be lined with 0.5 mm thick HDPE geo-membrane lining.*	The ash pond is lined with 0.5 mm thick HDPE geo-membrane, to avoid any leachate to the ground.
xiii	*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.*	Resettlement Action Plan (RAP) was compiled and submitted to the MOEF on 30-07-2007.
xiv	*Necessary prior clearance from NHAI shall be obtained before laying the pipeline.*	All necessary prior clearance from NHAI had obtained before laying the pipeline and a copy Submitted.

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

xxii	*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 http://envfor.nic.in.*	Published in Rajasthan Patrika Jodhpur Edition, Dt 19/08/2007
xxiii	*A separate environment monitoring cell with suitable qualified staff should be set up for implementation of the stipulated environmental safeguards.*	A dedicated environment monitoring cell with qualified staff has been established and is operative.
xxiv	*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.*	Being complied with. Copy of Submission enclosed **– Annexure IX**
xxv	*Regional Office of the Ministry of Environment & 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.*	Submitted.
xxvi	*Separate funds should be allocated for implementation of environmental protection measures along with item-wise break-up. This 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.*	The funds earmarked for environmental protection measures will not be diverted for other purposes. **Annexure VIII**
xxvii	*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.*	Being complied.

ANNEXURE - I

IGNP WATER BILL

APRIL- 2024 to SEP- 2024

Month	Cuft/Month	Cum/Month	Cuft/day	Cusecs – Day
APRIL-24	64397217	1823536	2146574	24.84
MAY-24	44393403	1257088	1432045	16.57
JUNE-24	63335523	1793472	2111184	24.44
JULY-24	56020059	1586320	1807099	20.92
AUGUST-24	25078363	710144	808979	9.36
SEPTEMBER-24	57575026	1630352	1919168	22.21

ANNEXURE-I

Government of Rajasthan
Indira Gandhi Nahar Project

No. 21 Date: 01/05/2024

The General Manager
J.S.W Energy (Barmer) Limited
Near Saint paul school
Indira colony Barmer, Rajasthan

Sub: Raw water bill for industrial purpose for the period April/2024

S.No.	Particular	Reading as on 31/03/2024	Reading as on 30/04/2024	Difference as per flow meter	Qty. in CFT	Unit	Rate	Amount
1	Supply of raw water from IGMN to JSW for industrial purpose	177466512	179290048	1823536	64397217.22	/1000 cft	332.75	21428174.03
							SAY RS	21428174.00

Rs.-Two Crore Forteen Lakh Twenty eighty thousand one Hundred seventy four only

S.No. Date:

Xen tmc dn ignp mohangarh

Assistant Engineer
Sub dn. III 28th u/c tmc dn.
IGNP Mohangarh

सहायक अभियन्ता
उपखण्ड III 28 वां प्र.नि.
पी.एम.सी.खण्ड, इ.गा.न.प
मोहनगढ

Government of Rajasthan
Indira Gandhi Nahar Project

No. 63 Date: 04/06/2024

The General Manager
J.S.W Energy (Barmer) Limited
Near Saint paul school
Indira colony Barmer, Rajasthan

Sub: Raw water bill for industrial purpose for the period May/2024

S.No.	Particular	Reading as on 30/04/2024	Reading as on 31/05/2024	Difference as per flow meter	Qty. in CFT	Unit	Rate	Amount
1	Supply of raw water from IGMN to JSW for industrial purpose	179290048	180547136	1257088	44393403.26	/1000 cft	332.75	14771904.93
							SAY RS	14771905.00

Rs.-One Crore Forty seven Lakh Seventy One thousand Nine Hundred five only

S.No. Date:

Xen tmc dn ignp mohangarh

Assistant Engineer
Sub dn. III 28th u/c tmc dn.
IGNP Mohangarh

सहायक अभियन्ता
उपखण्ड III 28 वां प्र.नि.
पी.एम.सी.खण्ड, इ.गा.न.प
मोहनगढ

Government of Rajasthan
Indira Gandhi Nahar Project

No. 76 Date: 01/07/2024

The General Manager
J.S.W Energy (Barmer) Limited
Near Saint paul school
Indira colony Barmer, Rajasthan

Sub: Raw water bill for industrial purpose for the period June/2024

S.No.	Particular	Reading as on 31/05/2024	Reading as on 30/06/2024	Difference as per flow meter	Qty. in CFT	Unit	Rate	Amount
1	Supply of raw water from IGMN to JSW for industrial purpose	180547136	182340608	1793472	63335522.83	/1000 cft	332.75	21074895.22
							SAY RS	21074895.00

Rs.-Two Crore Ten Lakh Seventy Four thousand Eight Hundred Ninety Five only

S.No. Date:

Xen tmc dn ignp mohangarh

Assistant Engineer
Sub dn. III 28th u/c tmc dn.
IGNP Mohangarh

सहायक अभियन्ता
उपखण्ड III 28 वां प्र.नि.
पी.एम.सी.खण्ड, इ.गा.न.प
मोहनगढ

ANNEXURE-I

Government of Rajasthan
Indira Gandhi Nahar Project

No. 122 Date: 01/09/24

The General Manager
J.S.W Energy (Barmer) Limited
Near Saint paul school
Indira colony Barmer, Rajasthan

Sub: Raw water bill for industrial purpose for the period July/2024

S.No.	Particular	Reading as on 30/06/2024	Reading as on 31/07/2024	Difference as per flow meter	Qty. in CFT	Unit	Rate	Amount
1	Supply of raw water from IGMN to JSW for industrial purpose	182340608	183926928	1586320	56020058.62	/1000 cft	332.75	18640674.51
							SAY RS	18640675.00

Rs.-One Crore Eighty Six Lakh Forty thousand Six Hundred Seventy Five only

S.No.
Xen tmc dn ignp mohangarh

Date:

Assistant Engineer
Sub dn. III 28th u/c tmc dn.
IGNP Mohangarh
सहायक अभियन्ता
उपखण्ड III 28 वां प्र.नि.
टी.एम.सी.खण्ड, इ.गा.न.प.
मोहनगढ

Government of Rajasthan
Indira Gandhi Nahar Project

No. 147 Date: 02/09/24

The General Manager
J.S.W Energy (Barmer) Limited
Near Saint paul school
Indira colony Barmer, Rajasthan

Sub: Raw water bill for industrial purpose for the period August/2024

S.No.	Particular	Reading as on 31/07/2024	Reading as on 31/08/2024	Difference as per flow meter	Qty. in CFT	Unit	Rate	Amount
1	Supply of raw water from IGMN to JSW for industrial purpose	183926928	184637072	710144	25078362.82	/1000 cft	332.75	8344825.23
							SAY RS	8344825.00

Rs.-Eighty three Lakh Forty four thousand Eight Hundred twenty Five only

S.No.
Xen tmc dn ignp mohangarh

Date:

Assistant Engineer
Sub dn. III 28th u/c tmc dn.
IGNP Mohangarh
सहायक अभियन्ता
उपखण्ड III 28 वां प्र.नि.
टी.एम.सी.खण्ड इ.गा.न.प.
मोहनगढ

Government of Rajasthan
Indira Gandhi Nahar Project

No. 202 Date: 01/10/2024

The General Manager
J.S.W Energy (Barmer) Limited
Near Saint paul school
Indira colony Barmer, Rajasthan

Sub: Raw water bill for industrial purpose for the period september/2024

S.No.	Particular	Reading as on 31/08/2024	Reading as on 30/09/2024	Difference as per flow meter	Qty. in CFT	Unit	Rate	Amount
1	Supply of raw water from IGMN to JSW for industrial purpose	184637072	186267424	1630352	57575025.60	/1000 cft	332.75	19158089.77
							SAY RS	19158090.00

Rs.-One crore Ninety one Lakh Fifty eight thousand ninety only

S.No.
Xen tmc dn ignp mohangarh

Date:

Assistant Engineer
Sub dn. III 28th u/c tmc dn.
IGNP Mohangarh
सहायक अभियन्ता
उप खण्ड III 28 वां खण्ड प्र.नि.
टी.एम.सी. खण्ड इ.गां.न.प.
मोहनगढ

ANNEXURE-II

Effluent Water Quality Apr– 2024 to Sep– 2024

SN	Parameters	UoM	CPCB Limits	Results					
				April	May	June	July	Aug	Sept
1.	pH		**6.5-8.5**	7.91	7.81	7.69	7.64	7.89	7.94
2.	Biochemical Oxygen Demand (BOD) @ 27Deg C for 3 days	mg/L	**< 30.0**	16.50	18.00	18.50	20.00	19.00	16.75
3.	Chemical Oxygen Demand (COD)	mg/L	**< 250**	94.5	93.75	88.00	92.00	99.75	92.75
4.	Total Kjeldhal Nitrogen as NH3	mg/L	**< 100**	9.08	17.95	22.65	13.60	20.53	10.74
5.	Free Available Chlorine	mg/L	**< 0.5**	BDL	BDL	BDL	BDL	BDL	BDL
6.	Oil & Grease	mg/L	**< 20**	1.35	1.68	1.48	1.45	1.85	1.40
7.	Copper as Cu	mg/L	**< 1**	BDL	BDL	BDL	BDL	BDL	BDL
8.	Zinc as Zn	mg/L	**< 1**	0.114	BDL	0.139	0.167	0.11	0.145
9.	Iron as Fe	mg/L	**< 1**	0.125	0.15	0.269	0.137	0.200	0.277
10.	Total Suspended Solid	mg/L	**< 100**	29.00	41.50	37.25	37.50	39.75	35.25
11.	Ammonical Nitrogen as N	mg/L	**< 50**	3.13	10.2	9.79	5.38	10.06	4.45
12.	Nitrate Nitrogen	mg/L	**< 10**	1.55	1.58	1.65	1.90	2.13	1.14
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

ANNEXURE-III

COAL ANALYSIS REPORT

COAL ANALYSIS REPORT APR, 2024 – SEP, 2024

	AVERAGE		
Month	**Total Moisture**	**Gross Calorific Value**	**Sulfur**
	%	**Kcal/Kg**	**%**
APRIL-24	41.53	2957.60	0.39
MAY-24	40.05	2968.38	0.40
JUNE-24	41.26	2674.28	0.40
JULY-24	41.84	2854.55	0.40
AUGUST-24	42.02	2914.97	0.42
SEPTEMBER-24	41.59	3139.59	0.43

ANNEXURE-III

Quality Council of India
2nd Floor, Institution of Engineers Building,
Bahadur Shah Zafar Marg,
New Delhi – 110 002, India

Report ID: QCI/COAL/JSW/SH/MR/126
Source Name: Screenhouse (As Fired)
Consumer Name: JSW Energy, Barmer Limited

Date: 08th May'2024

This is to certify that the weighted average analysis parameters of Lignite Coal (As Received basis) collected from Conveyor belt feeding to Unit# 1, 2, 3, 4, 5,6,7 and 8 is mentioned below:

Month	Quantity (in Metric Tonnes)	Analysis Parameters (As Received Basis) on weighted average		
		Total Moisture %	Sulphur %	GCV "Kcal/Kg"
April'2024	473112.000	41.53	0.39	2957.60

Mr. F.C. Srivastava
Deputy Director
Finance & Accounts Division, QCI

Note:
Sampling and analysis done by Quality Council of India (QCI) with the help of its technical service provider. Weighted Average Report is based on the basis Daily analysis report analyzed by QCI.
GCV analysis has been done in accordance to BIS specification, IS 1350 (Part-II), 1970 Reaffirmed: 2017
Testing and analysis performed at NABL accredited lab.
#Total Moisture determination has been done by QCI with the help of its third-party agency at JSW Energy (Barmer) limited laboratory in accordance to BIS specification, IS 1350 (Part-I), 1984 reaffirmed:2013

ANNEXURE-III

Quality Council of India
2nd Floor, Institution of Engineers Building,
Bahadur Shah Zafar Marg,
New Delhi – 110 002, India

Report ID: QCI/COAL/ISW/SH/MR/129 Date: 08th June'2024
Source Name: Screenhouse (As Fired)
Consumer Name: JSW Energy, Barmer Limited

This is to certify that the weighted average analysis parameters of Lignite Coal (As Received basis) collected from Conveyor belt feeding to Unit# 1, 2, 3, 4, 5,6,7 and 8 is mentioned below:

Month	Quantity (in Metric Tonnes)	Analysis Parameters (As Received Basis) on weighted average		
		Total Moisture %	Sulphur %	GCV "Kcal/Kg"
May'2024	384902.000	40.05	0.40	2968.38

Mr. F.C. Srivastava
Deputy Director
Finance & Accounts Division, QCI

Note:
Sampling and analysis done by Quality Council of India (QCI) with the help of its technical service provider. Weighted Average Report is based on the basis Daily analysis report analysed by QCI.
GCV analysis has been done in accordance to BIS specification, IS 1350 (Part-II), 1970 Reaffirmed: 2017
Testing and analysis performed at NABL accredited lab.
#Total Moisture determination has been done by QCI with the help of its third-party agency at JSW Energy (Barmer) limited laboratory in accordance to BIS specification, IS 1350 (Part-I), 1984 reaffirmed 2013

ANNEXURE-III

Quality Council of India
2nd Floor, Institution of Engineers Building,
Bahadur Shah Zafar Marg,
New Delhi – 110 002, India

Report ID: QCI/COAL/JSW/SH/MR/132
Source Name: Screenhouse (As Fired)
Consumer Name: JSW Energy, Barmer Limited

Date: 09th July'2024

This is to certify that the weighted average analysis parameters of Lignite Coal (As Received basis) collected from Conveyor belt feeding to Unit# 1, 2, 3, 4, 5,6,7 and 8 is mentioned below:

Month	Quantity (in Metric Tonnes)	Analysis Parameters (As Received Basis) on weighted average		
		Total Moisture %	Sulphur %	GCV "Kcal/Kg"
June'2024	553247.000	41.26	0.40	2674.28

Quality Council of India Barmer

Mr. F.C. Srivastava
Deputy Director
Finance & Accounts Division, QCI

Note:
Sampling and analysis done by Quality Council of India (QCI) with the help of its technical service provider. Weighted Average Report is based on the basis Daily analysis report analyzed by QCI.
GCV analysis has been done in accordance to BIS specification, IS 1350 (Part-II), 1970 Reaffirmed: 2017
Testing and analysis performed at NABL accredited lab.
#Total Moisture determination has been done by QCI with the help of its third-party agency at JSW Energy (Barmer) limited laboratory in accordance to BIS specification, IS 1350 (Part-I), 1984 reaffirmed:2013

ANNEXURE-III

Quality Council of India
2nd Floor, Institution of Engineers Building,
Bahadur Shah Zafar Marg,
New Delhi – 110 002, India

Report ID: QCI/COAL/JSW/SH/MR/135
Source Name: Screenhouse (As Fired)
Consumer Name: JSW Energy, Barmer Limited

Date: 08th Aug'2024

This is to certify that the weighted average analysis parameters of Lignite Coal (As Received basis) collected from Conveyor belt feading to Unit# 1, 2, 3, 4, 5,6,7 and 8 is mentioned below:

Month	Quantity (in Metric Tonnes)	Analysis Parameters (As Received Basis) on weighted average		
		Total Moisture %	Sulphur %	GCV "Kcal/Kg"
July'2024	601369.00	41.84	0.40	2854.55

Mr. F.C. Srivastava
Deputy Director
Finance & Accounts Division, QCI

Note:
Sampling and analysis done by Quality Council of India (QCI) with the help of its technical service provider. Weighted Average Report is based on the basis Daily analysis report analysed by QCI.
GCV analysis has been done in accordance to BIS specification, IS 1350 (Part-II), 1970 Reaffirmed: 2013
Testing and analysis performed at NABL accredited lab
#Total Moisture determination has been done by QCI with the help of its third-party agency at JSW Energy (Barmer) limited laboratory in accordance to BIS specification, IS 1350 (Part-I), 1984 reaffirmed:2013

ANNEXURE-III

Quality Council of India
2nd Floor, Institution of Engineers Building,
Bahadur Shah Zafar Marg,
New Delhi – 110 002, India

Report ID: QCI/COAL/ISW/SH/MR/138
Source Name: Screenhouse (As Fired)
Consumer Name: JSW Energy, Barmer Limited

Date: 09th September'2024

This is to certify that the weighted average analysis parameters of Lignite Coal (As Received basis) collected from Conveyor belt feeding to Unit# 1, 2, 3, 4, 5,6,7 and 8 is mentioned below:

Month	Quantity (in Metric Tonnes)	Analysis Parameters (As Received Basis) on weighted average		
		Total Moisture %	Sulphur %	GCV "Kcal/Kg"
Aug'2024	505301.00	42.03	0.42	2914.97

Mr. P.C. Srivastava
Deputy Director
Finance & Accounts Division, QCI

Note:
Sampling and analysis done by Quality Council of India (QCI) with the help of its technical service provider. Weighted Average Report is based on the basis Daily analysis report analyzed by QCI.
GCV analysis has been done in accordance to BIS specification, IS 1350 (Part-I), 1970 Reaffirmed: 2017
Testing and analysis performed at NABL accredited lab.
#Total Moisture determination has been done by QCI with the help of its third-party agency at JSW Energy (Barmer) limited laboratory in accordance to BIS specification, IS 1350 (Part-I), 1984 reaffirmed:2013

ANNEXURE-III

Quality Council of India
2nd Floor, Institution of Engineers Building,
Bahadur Shah Zafar Marg,
New Delhi – 110 002, India

Report ID: QCI/COAL/JSW/SH/MR/141
Source Name: Screenhouse (As Fired)
Consumer Name: JSW Energy, Barmer Limited

Date: 08th October'2024

This is to certify that the weighted average analysis parameters of Lignite Coal (As Received basis) collected from Conveyor belt feeding to Unit# 1, 2, 3, 4, 5,6,7 and 8 is mentioned below:

Month	Quantity (in Metric Tonnes)	Analysis Parameters (As Received Basis) on weighted average		
		Total Moisture %	Sulphur %	GCV "Kcal/Kg"
September'2024	424834.00	41.59	0.43	3139.59

Mr. P.C. Srivastava
Deputy Director
Finance & Accounts Division, QCI

Note:
Sampling and analysis done by Quality Council of India (QCI) with the help of its technical service provider. Weighted Average Report is based on the basis Daily analysis report analyzed by QCI.
GCV analysis has been done in accordance to BIS specification, IS 1350 (Part-II), 1970 Reaffirmed: 2017
Testing and analysis performed at NABL accredited lab.
#Total Moisture determination has been done by QCI with the help of its third-party agency at JSW Energy (Barmer) limited laboratory in accordance to BIS specification, IS 1350 (Part-I), 1984 reaffirmed 2013

ANNEXURE-IV

STACK EMISSION MONITORING RESULTS APRIL – 2024 to SEP – 2024

Month: APR' 2024

SN	Parameters	UOM	Unit-I	Unit-II	Unit-III	Unit-IV	Unit-V	Unit-VI	Unit-VII	Unit-VIII
1	Average Velocity	m/Sec	SHUT DOWN	14.44	13.98	13.14	15.53	14.46	14.51	13.58
2	Flow	Nm3/Sec		111.6	108.8	104.2	121.1	114.1	113.7	107.4
3	Stack Exit Temp.	0C		160	157	149	156	151	154	150
4	Particulate Matter	mg/Nm3		41.9	34.4	36.5	35.5	38.9	47.8	43.2
5	Sulphur Dioxide	mg/Nm3		438.7	441.2	449.7	461.5	482.1	518.5	513.7
6	Oxides of Nitrogen	mg/Nm3		145.2	150.3	158.4	141.2	129.8	126.8	129.8

Month: MAY' 2024

SN	Parameters	UOM	Unit-I	Unit-II	Unit-III	Unit-IV	Unit-V	Unit-VI	Unit-VII	Unit-VIII
1	Average Velocity	m/Sec	SHUT DOWN	18.11	19.47	19.76	18.82	19.06	SHUT DOWN	19.86
2	Flow	Nm3/Sec		138.3	149.7	153.4	148.1	146.3		153.8
3	Stack Exit Temp.	0C		165	162	158	152	163		159
4	Particulate Matter	mg/Nm3		36.8	34.2	37.2	35.8	38.6		42.7
5	Sulphur Dioxide	mg/Nm3		467.8	459.7	458.2	468.9	476.4		491.5
6	Oxides of Nitrogen	mg/Nm3		123.6	120.4	111.7	110.8	113.3		122.5

Month: JUNE' 2024

SN	Parameters	UOM	Unit-I	Unit-II	Unit-III	Unit-IV	Unit-V	Unit-VI	Unit-VII	Unit-VIII
1	Average Velocity	m/Sec	18.99	19.43	19.88	19.78	19.15	19.30	19.93	20.19
2	Flow	Nm3/Sec	142.8	148.8	150.5	148.0	144.9	148.4	150.2	150.8
3	Stack Exit Temp.	0C	172	164	169	174	169	162	171	175
4	Particulate Matter	mg/Nm3	41.4	40.4	31.5	35.2	38.7	37.2	39.1	42.9
5	Sulphur Dioxide	mg/Nm3	454.1	484.3	446.9	447.3	474.3	454.5	451.3	495.0
6	Oxides of Nitrogen	mg/Nm3	120.1	135.0	115.8	107.1	116.4	120.1	133.2	125.9

ANNEXURE-IV

Month: July' 2024

SN	Parameters	UOM	Unit-I	Unit-II	Unit-III	Unit-IV	Unit-V	Unit-VI	Unit-VII	Unit-VIII
1	Average Velocity	m/Sec	15.53	15.35	15.53	16.16	18.86	14.80	15.54	16.13
2	Flow	Nm3/Sec	121.1	121.7	119.4	129.0	143.7	114.9	117.6	125.2
3	Stack Exit Temp.	0C	156	149	162	146	166	158	169	158
4	Particulate Matter	mg/Nm3	42.2	38.3	45.6	37.6	34.1	36.1	43.5	40.4
5	Sulphur Dioxide	mg/Nm3	460.5	483.5	490.0	462.6	469.5	464.9	466.7	487.2
6	Oxides of Nitrogen	mg/Nm3	114.9	127.6	128.9	118.3	111.7	105.1	117.8	120.7

Month: AUG' 2024

SN	Parameters	UOM	Unit-I	Unit-II	Unit-III	Unit-IV	Unit-V	Unit-VI	Unit-VII	Unit-VIII
1	Average Velocity	m/Sec	17.85	18.57	18.23	17.64	17.69	17.42	17.38	18.40
2	Flow	Nm3/Sec	138.2	142.5	138.9	136.9	140.2	136.5	136.8	141.8
3	Stack Exit Temp.	0C	159	163	166	158	149	154	152	161
4	Particulate Matter	mg/Nm3	37.5	40.2	41.9	42.5	35.81	39.3	36.9	38.7
5	Sulphur Dioxide	mg/Nm3	467.8	486.4	424.7	478.0	450.1	444.8	421.9	413.4
6	Oxides of Nitrogen	mg/Nm3	123.6	119.2	127.8	111.7	108.4	107.2	140.1	139.1

Month: SEP' 2024

SN	Parameters	UOM	Unit-I	Unit-II	Unit-III	Unit-IV	Unit-V	Unit-VI	Unit-VII	Unit-VIII
1	Average Velocity	m/Sec	17.38	17.87	17.54	17.27	16.85	16.94	17.86	16.88
2	Flow	Nm3/Sec	134.6	137.4	135.5	132.5	127.5	130.6	139.0	131.0
3	Stack Exit Temp.	0C	159	162	160	163	169	161	157	158
4	Particulate Matter	mg/Nm3	38.3	36.6	35.3	38.5	33.6	42.0	40.2	42.8
5	Sulphur Dioxide	mg/Nm3	419.0	424.5	413.3	407.3	404.7	396.0	404.5	427.6
6	Oxides of Nitrogen	mg/Nm3	129.8	137.1	144.2	115.8	122.5	136.0	130.0	138.1

ANNEXURE-IV

Unit # 1 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
APR-24	Average	Unit	Shut	Down
	Max			
May-24	Average	Unit	Shut	Down
	Max			
Jun-24	Average	403.15	166.66	38.65
	Max	512.32	261.67	44.74
July-24	Average	471.67	207.26	35.70
	Max	515.33	260.98	42.34
Aug-24	Average	480.78	204.68	37.70
	Max	527.38	249.73	43.94
Sep-24	Average	480.95	189.15	38.27
	Max	507.61	262.29	45.32

Unit # 2 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
APR-24	Average	386.85	161.34	35.91
	Max	438.54	188.46	38.93
May-24	Average	405.64	152.65	35.45
	Max	447.14	185.15	41.56
Jun-24	Average	403.95	132.32	39.94
	Max	447.53	148.06	44.87
July-24	Average	420.65	126.66	30.47
	Max	454.34	164.23	38.05
Aug-24	Average	405.52	119.47	32.04
	Max	449.19	155.82	39.49
Sep-24	Average	378.78	126.58	37.35
	Max	451.77	156.47	45.42

ANNEXURE-IV

Unit # 3 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
APR-24	Average	485.46	162.39	41.66
	Max	515.37	221.27	43.56
May-24	Average	465.64	175.33	40.79
	Max	531.53	198.57	43.85
Jun-24	Average	439.80	160.03	41.88
	Max	509.09	200.10	44.30
July-24	Average	446.78	165.95	39.88
	Max	510.92	241.29	43.92
Aug-24	Average	448.59	212.24	39.27
	Max	522.27	250.66	41.14
Sep-24	Average	490.69	267.32	40.10
	Max	528.99	295.22	44.57

Unit # 4 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
APR-24	Average	417.64	191.56	38.24
	Max	519.13	254.60	40.09
May-24	Average	508.82	161.27	38.73
	Max	529.57	188.14	40.89
Jun-24	Average	470.59	160.49	34.36
	Max	513.19	182.50	40.87
July-24	Average	479.40	152.63	38.14
	Max	513.89	237.23	40.87
Aug-24	Average	447.60	198.12	35.46
	Max	510.11	278.32	40.89
Sep-24	Average	446.75	230.95	38.20
	Max	480.31	257.20	41.81

ANNEXURE-IV

Unit # 5 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
APR-24	Average	487.32	162.82	35.53
	Max	518.76	229.33	40.81
May-24	Average	419.11	208.88	36.48
	Max	507.30	262.77	41.96
Jun-24	Average	450.51	157.62	37.29
	Max	516.85	182.34	42.72
July-24	Average	458.00	155.42	40.44
	Max	518.37	193.54	44.31
Aug-24	Average	451.74	143.87	40.03
	Max	512.54	188.31	43.13
Sep-24	Average	487.74	155.42	41.38
	Max	511.72	188.52	45.44

Unit # 6 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
APR-24	Average	439.69	221.95	44.37
	Max	550.83	288.16	48.84
May-24	Average	523.00	178.24	44.95
	Max	555.00	271.50	48.50
Jun-24	Average	509.96	209.45	38.36
	Max	519.33	273.56	45.69
July-24	Average	476.75	215.63	31.18
	Max	526.73	288.28	42.24
Aug-24	Average	452.79	172.69	32.91
	Max	512.21	267.76	38.45
Sep-24	Average	495.54	187.54	34.75
	Max	521.21	263.30	41.25

ANNEXURE-IV

Unit # 7 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
APR-24	Average	387.82	206.50	31.09
	Max	461.68	236.27	39.91
May-24	Average	UNIT	SHUT	DOWN
	Max			
Jun-24	Average	417.91	235.40	35.01
	Max	503.31	258.53	41.60
July-24	Average	399.86	191.23	31.86
	Max	484.11	277.45	39.13
Aug-24	Average	461.59	196.87	33.27
	Max	495.68	238.66	36.52
Sep-24	Average	434.72	181.99	34.69
	Max	501.61	214.40	41.48

Unit # 8 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
APR-24	Average	465.62	207.55	32.66
	Max	511.68	288.19	37.88
May-24	Average	478.20	151.06	39.13
	Max	512.93	183.12	44.91
Jun-24	Average	497.34	178.58	39.61
	Max	518.77	226.33	45.33
July-24	Average	491.34	205.84	37.87
	Max	519.66	251.80	44.26
Aug-24	Average	463.21	187.70	33.86
	Max	507.68	234.89	39.45
Sep-24	Average	471.14	183.34	34.22
	Max	509.88	246.46	38.93

JSW Energy (Barmer) Limited
Village & Post : Bhadresh, Post Box No. 30,
Distt : Barmer – 344001 (Rajasthan)
CIN : U31102MH1996PLC185098
Phone : +91 2982 229100
Website : www.jsw.in

ANNEXURE-V

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

(For the Period from April, 2024 to September, 2024)

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

Sl. No.	ASH GENERATION AND UTILIZATION							Mode of Ash Utilization and Utilization in Each Mode (IN LAKH TON)					
	Month	Coal consumed (Lakh Ton)	Lime Coal Consumed (Lakh Ton)	Ash content of coal (%)	Total Ash content Coal + lime (%)	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)	(10)	(11)	(12)
1	APRIL	4.73112	0.09089	15.41	17.102	0.80913	0.61959	76.58	0.17632	0.44327	0.00000		
2	MAY	3.84902	0.06113	16.45	17.844	0.68683	0.51222	74.58	0.16338	0.34883	0.00000		
3	JUNE	5.53247	0.09804	15.58	17.140	0.94841	0.68096	71.80	0.23194	0.44902	0.00000		
4	JULY	6.01369	0.10124	15.89	17.374	1.04484	0.68783	65.83	0.22189	0.46594	0.00000		
5	AUGUST	5.05301	0.04559	13.69	14.479	0.73163	0.58083	79.39	0.17513	0.40570	0.00000		
6	SEPTEMBER	4.24834	0.04889	10.61	11.624	0.49384	0.53265	107.86	0.16926	0.36339	0.00000		
	TOTAL	**29.42765**	**0.44578**	**14.69**	**16.02**	**4.71468**	**3.61408**	**76.66**	**1.13792**	**2.47615**	**0.00000**	**0.00000**	**0.000**

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ANNEXURE-VI

Noise Level Monitoring- Apr'2024 – Sep' 2024

SN	Month	Apr		May		June		July		Aug		Sep	
	Noise Levels dB (A)	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
1	MAIN GATE INSIDE	67.4	58.7	73.0	66.8	70.0	61.1	71.5	67.3	69.3	65.6	71.1	62.4
2	COOLING TOWER END	64.9	59.7	65.8	63.0	67.5	62.8	69.1	62.0	69.4	65.1	68.1	64.2
3	NORTH WEST CORNER	62.2	61.6	71.4	62.7	65.8	63.7	70.5	66.6	70.0	61.1	68.6	63.9
4	Bhadresh Village	48.9	39.2	52.2	42.7	51.3	41.1	50.6	40.7	48.9	44.0	50.3	45.3
5	Isharpura Village	49.7	42.5	51.8	40.7	50.3	40.6	54.0	42.4	52.0	44.0	53.8	42.7
6	Chuli Village	52.0	42.4	49.8	40.7	53.8	44.5	53.3	44.4	53.4	42.1	52.9	44.4

ANNEXURE-VII

Ambient Air Quality Data- APRIL, 2024 – SEP, 2024

Month – April' 2024

SN	Location (Avg. 24 Hrs.)	PM-10 (µg/m³)	SO2 (µg/m³)	NO2 (µg/m³)	CO (mg/m³)	PM-2.5 (µg/m³)
1	Reservoir Area	20.56	10.44	16.52	0.24	16.02
2	Main Gate	33.11	16.18	36.24	0.28	25.91
3	Ash pond	34.39	10.21	26.21	0.46	22.06
4	Bhardesh Village	72.74	19.03	33.51	0.89	41.01
5	Ishrpura Village	72.79	16.79	30.77	0.68	40.37
6	Chuli Village	74.37	18.03	34.37	0.84	41.95

Month – May' 2024

SN	Location (Avg. 24 Hrs.)	PM-10 (µg/m³)	SO2 (µg/m3)	NO2 (µg/m3)	CO (mg/m3)	PM-2.5 (µg/m3)
1	Reservoir Area	20.34	7.27	10.40	0.22	13.86
2	Main Gate	29.32	7.29	36.26	0.32	23.95
3	Ash pond	23.29	8.20	21.02	0.46	17.55
4	Bhardesh Village	76.21	16.35	33.56	0.77	43.58
5	Ishrpura Village	76.37	18.96	35.72	0.74	42.21
6	Chuli Village	76.24	17.23	34.09	0.64	42.97

Month – June' 2024

SN	Location (Avg. 24 Hrs.)	PM-10 (µg/m³)	SO2 (µg/m3)	NO2 (µg/m3)	CO (mg/m3)	PM-2.5 (µg/m3)
1	Reservoir Area	28.13	6.26	17.19	0.22	18.00
2	Main Gate	28.78	12.29	31.24	0.37	8.53
3	Ash pond	27.50	6.57	17.11	0.70	19.07
4	Bhardesh Village	76.15	16.30	34.17	0.62	42.41
5	Ishrpura Village	76.59	18.32	36.05	0.52	43.35
6	Chuli Village	73.71	17.74	38.04	0.60	42.36

ANNEXURE-VII

Month – July' 2024

SN	Location (Avg. 24 Hrs.)	PM-10 (µg/m³)	SO2 (µg/m³)	NO2 (µg/m³)	CO (mg/m³)	PM-2.5 (µg/m³)
1	Reservoir Area	30.81	5.25	24.36	0.26	15.70
2	Main Gate	30.81	13.99	26.26	0.48	20.70
3	Ash pond	24.06	16.51	19.13	0.98	20.78
4	Bhardesh Village	75.68	16.18	35.68	0.70	42.76
5	Ishrpura Village	73.75	17.22	34.08	0.62	41.58
6	Chuli Village	76.10	17.45	35.85	0.44	39.35

Month – Aug' 2024

SN	Location (Avg. 24 Hrs.)	PM-10 (µg/m³)	SO2 (µg/m³)	NO2 (µg/m³)	CO (mg/m³)	PM-2.5 (µg/m³)
1	Reservoir Area	31.18	4.95	22.10	0.31	13.49
2	Main Gate	31.91	15.77	26.23	0.40	17.68
3	Ash pond	33.96	28.15	12.08	0.57	17.28
4	Bhardesh Village	72.54	16.75	31.78	0.54	38.07
5	Ishrpura Village	73.54	16.01	33.53	0.52	39.71
6	Chuli Village	73.64	17.67	34.77	0.53	40.88

Month – Sep' 2024

SN	Location (Avg. 24 Hrs.)	PM-10 (µg/m³)	SO2 (µg/m³)	NO2 (µg/m³)	CO (mg/m³)	PM-2.5 (µg/m³)
1	Reservoir Area	37.59	18.31	37.64	0.24	18.52
2	Main Gate	46.20	5.99	36.25	0.52	31.00
3	Ash pond	42.71	19.07	34.80	0.61	32.18
4	Bhardesh Village	75.86	16.30	32.20	0.57	40.34
5	Ishrpura Village	75.90	16.18	32.85	0.62	42.32
6	Chuli Village	76.29	16.27	37.04	0.56	44.39

Environmental Expenditure

Actual anticipated - As per WO issued

Environmental Expenditure Detail (FY_2022-23 & 2023-24)			
Sr. No.	Particulars	Amount (Lacs) Rs.	
		2022-2023	2023-2024
1	Effluent Treatment Plant (ETP)	46.82	44.8
2	Sewage Treatment Plant (STP)	32.23	33.2
3	Green Belt Development	87.0	94.0
4	Continuous Emission Monitoring System (CEMS) 8Nos. -(AMC, Spares & Monitoring))	26.64	26.03
5	Continuous Ambient Air Quality Monitoring System (CAAQMS) 6 Nos. -(Rent and Electricity bills for surrounding plant outside installed Three station)	10.12	10.80
6	Environmental Monitoring (annual)& Instruments	8.50	14.90
7	ESP Modification	1765.00	588.52
Total (Lacs) Rs.		**2300.56**	**1976.4**

ANNEXURE-IX

JSW Energy (Barmer) Limited
Village & Post : Bhadresh, Post Box No. 32,
Distt : Barmer – 344001 (Rajasthan)
CIN : U31102MH1998PLC185008
Phone : +91 2982 229100
Website: www.jsw.in

Ref: JSWE(B)L/ENV/24-25/011 **Date: 14.06.2024**

To,

Ministry of Environment Forests & Climate Change,

Integrated Regional Office,

A-209&218, Aranya Bhavan, M. G. Road,

Jaipur-304002, Rajasthan.

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- 2023 to March- 2024,** for the conditions stipulated in the Environmental clearance issued for this Power Project. Analysis Data has uploaded on JSWEBL website – http://www.jsw.in/energy/about-barmer-plant.

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.

Dipak Patil
GM (Operation, Environment & Chemistry)

Enclosure:

1.	Compliance Report	
2.	Water consumption Data	-Annexure I
3.	Effluent Water Data	-Annexure II
4.	Coal Analysis Data	-Annexure III
5.	CEMS & Stack Monitoring DATA	-Annexure IV
6.	Ash Utilization Data	-Annexure V
7.	Noise Monitoring	-Annexure VI
8.	AAQ Monitoring Data	-Annexure VII
9.	Environmental Expenditure	- Annexure VIII
10.	Last Compliance Report	-Annexure IX

C.C.
The Member Secretary – Central Pollution Control Board, Delhi
The Member Secretary – RSPCB, Jaipur
The Regional Officer – RSPCB, Balotra