

**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/21-22/009

Date: 19.05.2021

To,

**Ministry of Environment & Forests
Indira Paryavaran Bhavan,
Ali Ganj, Jorbagh Road,
New Delhi, Delhi 110003**

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- 2020 to MARCH- 2021**, 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.

Vinod Jindal

AGM (LHS, 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. Last Compliance Report | -Annexure VIII |

C.C.

The Director – MOEF, Lucknow

The Member Secretary – Central Pollution Control Board, Delhi

The Member Secretary – RSPCB, Jaipur

The Regional Officer – RSPCB, Balotra.



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

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: OCT, 2020 – MAR, 2021

| S.N. | Condition | Status |
|------|--|--|
| i | <i>No land in excess of 468 ha shall be acquired for any activity of the project.</i> | Land acquisition has been carried at the time of setting up the Power Project. No additional land been acquired for this Project. |
| ii | <i>The water requirement for the project shall not exceed 37.3 cusecs. No ground water shall be abstracted for any activity of the project.</i> | Water in excess of the mandated 37.3 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 | <i>Closed Circuit Cooling System with induced draft cooling towers shall be installed.</i> | Four numbers of closed circuit cooling tower blocks with induced draft cooling towers have been erected and are in operation. |
| iv | <i>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.</i> | 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 | <i>Lignite with ash content not exceeding 20% and sulphur content not exceeding 2.0% shall be used.</i> | 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 | <i>Space provision for FGD shall be made, if required at a later stage.</i> | <p>The Project is based on Circulating Fluidized Base Combustion technology for fuel firing and involves injection of lime, which absorbs Sulphur.</p> <p>As such, there is no requirement for FGD. However space provision has been made for FGD.</p> |
| vii | <i>Four stacks of 122 m height each with exit velocity of at least 20 m/s shall be provided with continuous online monitoring system.</i> | <p>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, NO_x & CO to be within prescribed levels. ANNEXURE-IV</p> |
| viii | <i>Low NO_x burners shall be installed.</i> | <p>The boiler is designed on Circulating Fluidized Bed Combustion, system attains to very low NO_x generation.</p> |
| ix | <i>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/Nm³.</i> | <p>High efficiency ESPs are installed to maintain PM emission levels at less than 100 mg/Nm³.</p> |
| xi | <i>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.</i> | <p>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.</p> <p>Ash Utilization data ANNEXURE-V</p> |
| xii | <i>Ash pond shall be lined with 0.5 mm thick HDPE geo-membrane lining.</i> | <p>The ash pond is lined with 0.5 mm thick HDPE geo-membrane, to avoid any leachate to the ground.</p> |

| | | |
|-------|---|---|
| xiii | <i>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.</i> | Resettlement Action Plan (RAP) was compiled and submitted to the MOEF on 30-07-2007. |
| xiv | <i>Necessary prior clearance from NHAI shall be obtained before laying the pipeline.</i> | All necessary prior clearance from NHAI had obtained before laying the pipeline and a copy Submitted. |
| xv | <i>Necessary prior clearance from Indian Air Force shall be obtained for construction of stacks of requisite height before starting the work on the project.</i> | Before commencing the civil work on the stacks, necessary clearance had obtained from the Indian Air Force. |
| xvi | <i>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.</i> | 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 | <i>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.</i> | There is hardly any ground water within 20 km of the Project area. |
| xviii | <i>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.</i> | 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 | <i>A greenbelt shall be developed all around the plant boundary and ash pond covering an area of 154 ha.</i> | 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 | <i>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.</i> | 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 | <i>For controlling fugitive dust, regular sprinkling of water in lignite handling area and other vulnerable areas of the plant shall be ensured.</i> | Regular sprinkling of water is being practiced to minimize the fugitive dust emissions. |
| xxii | <i>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.</i> | Published in Rajasthan Patrika Jodhpur Edition, Dt 19/08/2007 |
| xxiii | <i>A separate environment monitoring cell with suitable qualified staff should be set up for implementation of the stipulated environmental safeguards.</i> | A dedicated environment monitoring cell with qualified staff has been established and is operative. |
| xxiv | <i>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.</i> | Being complied with. Copy of Submission enclosed – Annexure VIII |
| xxv | <i>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.</i> | Submitted. |
| xxvi | <i>Separate funds should be allocated for implementation of environmental protection measures along with item-wise break-up. These 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.</i> | The funds earmarked for environmental protection measures will not be diverted for other purposes. |
| xxvii | <i>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.</i> | Being complied. |

ANNEXURE-I

IGNP WATER BILL**OCTOBER-2020 To MARCH-2021**

| Month | Cuft/Month | Cum/Month | Cuft/day | Cusecs – Day |
|--------|------------|-----------|----------|--------------|
| Oct-20 | 67001448 | 1897280 | 2161337 | 25.02 |
| Nov-20 | 35093831 | 993752 | 1169794 | 13.54 |
| Dec-20 | 58589257 | 1659072 | 1889976 | 21.87 |
| Jan-21 | 62428082 | 1767776 | 2013809 | 23.31 |
| Feb-21 | 35436240 | 1003448 | 1265580 | 14.65 |
| Mar-21 | 59198644 | 1676328 | 1909634 | 22.10 |



ANNEXURE-I

No. 956 Date 1/11/20

To: The General Manager
J.S.W Energy Limited
Near Saint Paul school
Indira colony, Barmer
Rajasthan

Sub- Raw water bill for industrial purpose for the period Oct 06/2020 @ 000125

| S No. | Particular | Reading on 30/9/20 | Reading as on 31/10/20 | Difference as per flow meter | Qty. in CFT 0.028317 | Unit | Rate | Amount |
|-------|--|--------------------|------------------------|------------------------------|----------------------|----------|------|------------|
| 1 | Supply of raw water from I.G.M.N to J.S.W for industrial purpose | 112463408 | 11360688 | 1897280 | 6700442.18 | 1000 CFT | 20 | 1340028.95 |
| | | | | | | | | 1340028.95 |
| | | | | | | | | 1340028.95 |
| | | | | | | | | 1340028.95 |

Rupees - Thirteen Lakhs Fourty thousand two hundred and twenty eight only

Please pay before 10/11/20 other wise 18% intrest should be recover as per instruction of higher authorities

Signature: [Signature]

No. 1026 Date 1/12/20

To: The General Manager
J.S.W Energy Limited
Near Saint Paul school
Indira colony, Barmer
Rajasthan

Sub- Raw water bill for industrial purpose for the period November 10 at 000125

| S No. | Particular | Reading on 31/10/20 | Reading as on 30/11/20 | Difference as per flow meter | Qty. in CFT 0.028317 | Unit | Rate | Amount |
|-------|--|---------------------|------------------------|------------------------------|----------------------|----------|------|-----------|
| 1 | Supply of raw water from I.G.M.N to J.S.W for industrial purpose | 11360688 | 115234400 | 3527352 | 35097620.6 | 1000 CFT | 20 | 701876.41 |
| | | | | | | | | 701876.41 |
| | | | | | | | | 701876.41 |
| | | | | | | | | 701876.41 |

Rupees - Seven Lakhs one thousand eight hundred and seventy six only

Please pay before 10/12/20 other wise 18% intrest should be recover as per instruction of higher authorities.

Signature: [Signature]

No. 1049 Date 12/12/20

To: The General Manager
J.S.W Energy Ltd
Near Saint Paul School
Indira colony Barmer
Rajasthan

Sub- Raw water bill for industrial purpose for the month - 12/2020 at 000125

| S No. | Particular | Reading on 30/11/20 | Reading on 31/12/20 | Difference as per flow meter | Qty. in CFT 0.028317 | Unit | Rate | Amount |
|-------|--|---------------------|---------------------|------------------------------|----------------------|----------|------|------------|
| 1 | Supply of raw water from I.G.M.N to J.S.W for industrial purpose | 115234400 | 11702512 | 165072 | 5858257.34 | 1000 CFT | 20 | 1171425.46 |
| | | | | | | | | 1171425.46 |
| | | | | | | | | 1171425.46 |
| | | | | | | | | 1171425.46 |

Rupees Eleven Lakhs Seventy one thousand two hundred and twenty five only

Please pay before 10th January 2021 other wise 18% penalty should be cover as per instruction given by Higher Authorities

Signature: [Signature]





ANNEXURE-I

Name of office: Assistant engineer with division 3rd of 20th UDC and division 1 & 2 of 20th UDC
Email id: amrindia@gmail.com

No. 1037
31-1-2021

To: The General Manager
JSW Energy Limited
Near Sakal post school
Indra Gandhi, Barmer
Rajasthan

Date: _____

Sub: Raw water bill for industrial purpose for the period 1/1/21 to 31/1/21 and 1/2/21 to 31/2/21

| S. No. | Particulars | Reading on 31-1-21 | Reading on 31-2-21 | Difference in flow meter | Qty. in CFT | Unit | Rate | Amount |
|--------|--|--------------------|--------------------|--------------------------|-------------|----------|------|-----------------|
| 1 | Supply of raw water from I.C.M.N to J.S.W for industrial purpose | 11701250 | 11870128 | 168878 | 6242227 | 1000 CFT | 20 | Rs 12,48,445.40 |

Suppose: Twelve lakh twenty eight thousand five hundred twenty two only

Please pay before 10-2-21 other wise 18% interest should be recover as per instruction of higher authorities

Signature: _____
Stamp: _____

Name of office: Assistant engineer with division 3rd of 20th UDC and division 1 & 2 of 20th UDC
Email id: amrindia@gmail.com

No. 1146
01/03/21

To: The General Manager
JSW Energy Limited
Near Sakal post school
Indra Gandhi, Barmer
Rajasthan

Date: _____

Sub: Raw water bill for industrial purpose for the period 31/2/2021 to 28/3/2021 and 1/4/21 to 31/3/21

| S. No. | Particulars | Reading on 31-2-21 | Reading on 28-3-21 | Difference in flow meter | Qty. in CFT | Unit | Rate | Amount |
|--------|--|--------------------|--------------------|--------------------------|-------------|----------|------|----------------|
| 1 | Supply of raw water from I.C.M.N to J.S.W for industrial purpose | 11873128 | 11973726 | 100598 | 7027242 | 1000 CFT | 20 | Rs 7,02,724.20 |

Suppose: Seven lakh twenty seven thousand two hundred twenty four only

Please pay before 10/4/21 other wise 18% interest should be recover as per instruction of higher authorities

Signature: _____
Stamp: _____

Name of office: Assistant engineer with division 3rd of 20th UDC and division 1 & 2 of 20th UDC
Email id: amrindia@gmail.com

No. 8

To: The General Manager
JSW Energy Limited
Near Sakal post school
Indra Gandhi, Barmer
Rajasthan

Date: 01/04/21

Sub: Raw water bill for industrial purpose for the period 1/3/2021 to 31/3/2021 and 1/4/21 to 31/3/21

| S. No. | Particulars | Reading on 31-3-21 | Reading on 28-3-21 | Difference in flow meter | Qty. in CFT | Unit | Rate | Amount |
|--------|--|--------------------|--------------------|--------------------------|-------------|----------|------|-----------------|
| 1 | Supply of raw water from I.C.M.N to J.S.W for industrial purpose | 1246164 | 11973726 | 117628 | 579344 | 1000 CFT | 20 | Rs 11,58,688.00 |

Totals: Rs 11,58,688.00

Suppose: Eleven lakh fifty eight thousand six hundred eighty eight only

Please pay before 10/4/21 other wise 18% interest should be recover as per instruction of higher authorities

Signature: _____
Stamp: _____

ANNEXURE-II
Effluent Water Quality OCT- 2020 to MAR- 2021

| SN | Parameters | UoM | CPCB Limits | Results | | | | | |
|-----|--|------|-------------|----------|----------|----------|----------|----------|----------|
| | | | | Oct | Nov | Dec | Jan | Feb | Mar |
| 1. | pH | | 6.5-8.5 | 7.23 | 7.25 | 6.28 | 7.30 | 7.35 | 7.45 |
| 2. | Biochemical Oxygen Demand (BOD) @ 27Deg C for 3 days | mg/L | < 30.0 | 20.2 | 20.42 | 22.65 | 22.60 | 21.07 | 21.05 |
| 3. | Chemical Oxygen Demand (COD) | mg/L | < 250 | 88.25 | 86.25 | 101.75 | 112.75 | 117.50 | 134.7 |
| 4. | Total Kjeldhal Nitrogen as NH ₃ | mg/L | < 100 | 14.15 | 13.83 | 13.09 | 14.13 | 14.55 | 14.95 |
| 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 |
| 6. | Oil & Grease | mg/L | < 20 | 3.18 | 3.40 | 4.18 | 4.97 | 4.95 | 4.10 |
| 7. | Copper as Cu | mg/L | < 1 | 0.030 | 0.036 | 0.040 | 0.048 | 0.053 | 0.014 |
| 8. | Zinc as Zn | mg/L | < 1 | 0.39 | 0.41 | 0.42 | 0.52 | 0.56 | 0.48 |
| 9. | Iron as Fe | mg/L | < 1 | 0.59 | 0.63 | 0.55 | 0.62 | 0.72 | 0.62 |
| 10. | Total Suspended Solid | mg/L | < 100 | 54.25 | 58.00 | 66.75 | 74.75 | 81.75 | 81.75 |
| 11. | Ammonical Nitrogen as N | mg/L | < 50 | 5.27 | 5.00 | 5.22 | 5.68 | 5.31 | 5.51 |
| 12. | Nitrate Nitrogen | mg/L | < 10 | 2.68 | 2.56 | 2.74 | 2.95 | 3.62 | 3.71 |
| 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 |

COAL ANALYSIS REPORT

COAL ANALYSIS REPORT Oct' 2020 – Mar' 2021

| | <u>AVERAGE</u> | | | |
|----------------------|---------------------------|------------|--------------------------------------|---------------|
| Month | Total Moisture | Ash | Gross Calorific Value | Sulfur |
| | % | % | Kcal/Kg | % |
| OCTOBER-2020 | 40.44 | 11.45 | 3078.76 | 0.90 |
| NOVEMBER-2020 | 40.50 | 13.26 | 3136.92 | 0.42 |
| DECEMBER-2020 | 41.12 | 13.50 | 3084.34 | 0.42 |
| JANUARY-2021 | 41.96 | 10.59 | 3285.39 | 0.42 |
| FEBRUARY-2021 | 40.69 | 13.36 | 3156.42 | 0.43 |
| MARCH-2021 | 39.85 | 13.77 | 3158.22 | 0.38 |

ANNEXURE-III

Mitra S.K. Private Limited

5/4, Shankar Colony
Old Fatehpura, Udaipur-313001(Rajasthan)
CIN: U51909WB1956PTC023037

T: 0294 2451926
F: 0294 2451926
E: udaipur@mitrask.co.in



Certificate No.: - MSK/UDR/JSW/2020-21/73

Date:- 04.11.2020

CERTIFICATE OF SAMPLING & ANALYSIS

This is to certify that we the under sign surveyor have carried out Conveyor Belt Coal sampling feeding to Unit # 1, 2, 3, 4, 5, 6, 7 & 8 Bunker and analysis for the same LIGNITE COAL sample and report as under

Date & Place of Attendance: At JSW Energy (Barmer) Ltd. Plant, Bhadresh from 01.10.2020 to 31.10.2020

Sampling & Analysis: Continuous sampling was done during feeding of Lignite Coal in Bunker. 24 Hrs. sample thus collected sample was reduced to prepare the Moisture and General analysis sample

COMPOSITE OF UNIT 1, 2, 3, 4, 5, 6, 7 & 8

| Date | TM% (ARB) | ASH% (ARB) | VM% (ARB) | FC% (ARB) | GCV (Kcal/kg) (ARB) | Sulfur% (ARB) |
|----------|-----------|------------|-----------|-----------|---------------------|---------------|
| 01.10.20 | 41.03 | 11.54 | 26.11 | 22.12 | 2985 | 0.92 |
| 02.10.20 | 40.50 | 11.96 | 24.89 | 22.43 | 2981 | 0.88 |
| 03.10.20 | 40.75 | 11.28 | 25.49 | 21.92 | 2984 | 0.91 |
| 04.10.20 | 40.72 | 11.57 | 25.21 | 22.66 | 2980 | 0.83 |
| 05.10.20 | 40.77 | 12.36 | 26.80 | 20.51 | 2983 | 0.97 |
| 06.10.20 | 40.57 | 11.13 | 25.58 | 21.27 | 3040 | 0.88 |
| 07.10.20 | 39.97 | 11.09 | 25.80 | 21.33 | 3060 | 0.84 |
| 08.10.20 | 40.54 | 11.03 | 25.22 | 23.19 | 3082 | 0.97 |
| 09.10.20 | 40.16 | 10.96 | 25.55 | 22.69 | 3085 | 0.83 |
| 10.10.20 | 39.61 | 12.31 | 25.01 | 22.51 | 3088 | 0.92 |
| 11.10.20 | 39.93 | 11.47 | 25.06 | 23.20 | 3083 | 0.86 |
| 12.10.20 | 40.61 | 11.79 | 26.50 | 23.53 | 3087 | 0.93 |
| 13.10.20 | 40.40 | 11.52 | 25.17 | 23.10 | 3084 | 0.84 |
| 14.10.20 | 41.14 | 11.15 | 24.77 | 21.99 | 3076 | 0.98 |
| 15.10.20 | 40.19 | 11.87 | 24.85 | 22.23 | 3078 | 0.87 |
| 16.10.20 | 41.41 | 10.89 | 25.68 | 22.25 | 3075 | 0.96 |
| 17.10.20 | 40.61 | 11.82 | 24.93 | 22.48 | 3079 | 0.83 |
| 18.10.20 | 40.87 | 11.37 | 25.26 | 22.73 | 3074 | 0.93 |
| 19.10.20 | 40.06 | 11.27 | 25.35 | 22.42 | 3105 | 0.88 |
| 20.10.20 | 40.58 | 11.89 | 26.51 | 20.26 | 3115 | 0.93 |
| 21.10.20 | 40.44 | 11.96 | 26.48 | 21.27 | 3120 | 0.90 |

H.O.: Shree Centre (5th Floor), 74B, Acharya Jagadish Chandra Bose Road, Kolkata - 700016, West Bengal, India
T: 91 33 4014 3000 / 2265 0006 / 2265 0007 F: 91 33 2265 0008 E: info@mitrask.com W: www.mitrask.com



ANNEXURE-III**Mitra S.K. Private Limited**

5/4, Shankar Colony
Old Fatehpura, Udaipur-313001(Rajasthan)
CIN: U51909WB1956PTC023037

T: 0294 2451926
F: 0294 2451928
E: udaipur@mitrask.co.in



Certificate No.: - MSK/UDR/JSW/2020-21/73

Date:- 04.11.2020

| Date | TM% (ARB) | ASH% (ARB) | VM% (ARB) | FC% (ARB) | GCV (Kcal/kg) (ARB) | Sulfur% (ARB) |
|----------|-----------|------------|-----------|-----------|---------------------------|---------------|
| 22.10.20 | 40.66 | 10.97 | 26.10 | 21.39 | 3118 | 0.94 |
| 23.10.20 | 40.70 | 11.03 | 25.13 | 23.00 | 3110 | 0.88 |
| 24.10.20 | 40.73 | 10.74 | 25.55 | 22.78 | 3118 | 0.90 |
| 25.10.20 | 41.06 | 11.34 | 25.37 | 22.65 | 3115 | 0.87 |
| 26.10.20 | 40.40 | 10.66 | 25.53 | 22.96 | 3117 | 0.93 |
| 27.10.20 | 40.50 | 11.41 | 26.37 | 22.63 | 3125 | 0.94 |
| 28.10.20 | 40.21 | 10.97 | 25.05 | 23.12 | 3127 | 0.80 |
| 29.10.20 | 40.24 | 11.18 | 24.56 | 23.20 | 3126 | 0.91 |
| 30.10.20 | 39.13 | 11.96 | 25.22 | 21.62 | 3195 | 0.92 |
| 31.10.20 | 39.45 | 11.57 | 26.19 | 21.46 | 3198 | 0.93 |

Note :-

1. These Samples were collected by Mitra S. K. Pvt. Ltd. from JSW Energy (Barmer) Ltd. Plant, Bhadresh
2. This report reflects our findings at the date and place of Inspection only and does not refer to any other matter.

Checked By:



Authorized Signatory

For Mitra S. K. Private Limited



Authorized Signatory

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/CR/03
Source Name: SCREENHOUSE (As Fired)
Consumer Name: JSW Energy, Barmer Limited
Collection Month: November'20

Date: 16th Feb'2021

This is to certify that the day wise analysis reports of Lignite Coal (As received basis) collected from Conveyor belt feeding to Unit #1, 2, 3, 4, 5, 6, 7 and 8 for the month of November'20 is mentioned below:

| Sample Code | Date of Sample collection | As Received Basis | | | | | |
|--------------------|---------------------------|-------------------|------------------------|-------|---------------------|---------------------------------------|-----------|
| | | Total Moisture % | Volatile Matter (VM) % | Ash % | Fixed Carbon (FC) % | Gross Calorific Value (GCV) "Kcal/kg" | Sulphur % |
| QCI/COAL/JSW/SH/32 | 1-Nov-20 | 41.45 | 24.14 | 12.40 | 22.01 | 3119 | 0.45 |
| QCI/COAL/JSW/SH/33 | 2-Nov-20 | 40.75 | 24.24 | 12.89 | 22.12 | 3175 | 0.60 |
| QCI/COAL/JSW/SH/34 | 3-Nov-20 | 39.95 | 23.44 | 15.34 | 21.27 | 3042 | 0.41 |
| QCI/COAL/JSW/SH/35 | 4-Nov-20 | 41.30 | 24.77 | 13.24 | 20.69 | 3042 | 0.51 |
| QCI/COAL/JSW/SH/36 | 5-Nov-20 | 40.35 | 25.50 | 13.65 | 20.50 | 3087 | 0.37 |
| QCI/COAL/JSW/SH/37 | 6-Nov-20 | 40.30 | 24.96 | 14.37 | 20.37 | 3025 | 0.48 |
| QCI/COAL/JSW/SH/38 | 7-Nov-20 | 38.05 | 25.41 | 14.01 | 22.53 | 3265 | 0.37 |
| QCI/COAL/JSW/SH/39 | 8-Nov-20 | 41.85 | 24.62 | 11.27 | 22.26 | 3177 | 0.36 |
| QCI/COAL/JSW/SH/40 | 9-Nov-20 | 42.00 | 24.53 | 11.32 | 22.15 | 3194 | 0.45 |
| QCI/COAL/JSW/SH/41 | 10-Nov-20 | 40.90 | 24.45 | 13.24 | 21.41 | 3096 | 0.45 |
| QCI/COAL/JSW/SH/42 | 11-Nov-20 | 41.95 | 23.31 | 13.41 | 21.33 | 3024 | 0.53 |
| QCI/COAL/JSW/SH/43 | 12-Nov-20 | 40.90 | 24.50 | 12.55 | 22.06 | 3209 | 0.46 |
| QCI/COAL/JSW/SH/44 | 13-Nov-20 | 39.75 | 25.14 | 14.39 | 20.72 | 3115 | 0.39 |
| QCI/COAL/JSW/SH/45 | 14-Nov-20 | 38.80 | 25.71 | 16.02 | 19.47 | 3039 | 0.37 |
| QCI/COAL/JSW/SH/46 | 15-Nov-20 | 41.00 | 25.83 | 12.80 | 20.37 | 3152 | 0.58 |
| QCI/COAL/JSW/SH/47 | 16-Nov-20 | 40.55 | 24.56 | 14.40 | 20.49 | 3020 | 0.37 |
| QCI/COAL/JSW/SH/48 | 17-Nov-20 | 41.70 | 25.20 | 10.55 | 22.55 | 3306 | 0.43 |
| QCI/COAL/JSW/SH/49 | 18-Nov-20 | 42.80 | 27.06 | 9.36 | 20.78 | 3301 | 0.44 |
| QCI/COAL/JSW/SH/50 | 19-Nov-20 | 42.05 | 24.27 | 12.37 | 21.31 | 3065 | 0.34 |
| QCI/COAL/JSW/SH/51 | 20-Nov-20 | 39.65 | 27.28 | 11.07 | 22.00 | 3378 | 0.41 |
| QCI/COAL/JSW/SH/52 | 21-Nov-20 | 38.85 | 25.84 | 13.59 | 21.72 | 3251 | 0.13 |



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Report ID: QCI/COAL/JSW/SH/CR/03

Date: 16th Feb'2021

| Sample Code | Date of Sample collection | As Received Basis | | | | | |
|--------------------|---------------------------|-------------------|------------------------|-------|---------------------|---------------------------------------|-----------|
| | | Total Moisture % | Volatile Matter (VM) % | Ash % | Fixed Carbon (FC) % | Gross Calorific Value (GCV) "Kcal/kg" | Sulphur % |
| QCI/COAL/JSW/SH/53 | 22-Nov-20 | 37.90 | 24.84 | 16.15 | 21.11 | 3095 | 0.45 |
| QCI/COAL/JSW/SH/54 | 23-Nov-20 | 40.40 | 24.93 | 12.10 | 22.57 | 3296 | 0.38 |
| QCI/COAL/JSW/SH/55 | 24-Nov-20 | 37.80 | 26.17 | 12.75 | 23.28 | 3420 | 0.43 |
| QCI/COAL/JSW/SH/56 | 25-Nov-20 | 41.60 | 24.78 | 12.20 | 21.42 | 3182 | 0.36 |
| QCI/COAL/JSW/SH/57 | 26-Nov-20 | 40.70 | 23.63 | 14.57 | 21.09 | 3037 | 0.52 |
| QCI/COAL/JSW/SH/58 | 27-Nov-20 | 40.45 | 25.01 | 11.64 | 22.90 | 3028 | 0.25 |
| QCI/COAL/JSW/SH/59 | 28-Nov-20 | 38.40 | 22.90 | 19.14 | 19.56 | 2824 | 0.50 |
| QCI/COAL/JSW/SH/60 | 29-Nov-20 | 40.90 | 24.11 | 14.45 | 20.54 | 3024 | 0.38 |
| QCI/COAL/JSW/SH/61 | 30-Nov-20 | 41.35 | 24.00 | 13.03 | 21.62 | 3092 | 0.41 |



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

Note:

Sampling and analysis done by Quality Council of India (QCI) with the help of its Technical service provider.

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



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Report ID: QCI/COAL/JSW/SH/CR/06
Source Name: SCREENHOUSE (As Fired)
Consumer Name: JSW Energy, Barmer Limited
Collection Month: December'20

Date: 16th Feb'2021

This is to certify that the day wise analysis reports of Lignite Coal (As received basis) collected from Conveyor belt feeding to Unit #1, 2, 3, 4, 5, 6, 7 and 8 for the month of December'20 is mentioned below:

| Sample Code | Date of Sample collection | As Received Basis | | | | | |
|--------------------|---------------------------|-------------------|------------------------|-------|---------------------|---------------------------------------|-----------|
| | | Total Moisture % | Volatile Matter (VM) % | Ash % | Fixed Carbon (FC) % | Gross Calorific Value (GCV) "Kcal/kg" | Sulphur % |
| QCI/COAL/JSW/SH/62 | 1-Dec-20 | 40.40 | 24.96 | 13.20 | 21.44 | 3180 | 0.46 |
| QCI/COAL/JSW/SH/63 | 2-Dec-20 | 40.15 | 24.54 | 13.83 | 21.47 | 3130 | 0.47 |
| QCI/COAL/JSW/SH/64 | 3-Dec-20 | 39.55 | 24.12 | 15.12 | 21.21 | 3074 | 0.63 |
| QCI/COAL/JSW/SH/65 | 4-Dec-20 | 39.30 | 24.19 | 14.49 | 22.03 | 3147 | 0.50 |
| QCI/COAL/JSW/SH/66 | 5-Dec-20 | 40.05 | 25.17 | 12.46 | 22.32 | 3258 | 0.29 |
| QCI/COAL/JSW/SH/67 | 6-Dec-20 | 40.85 | 24.42 | 13.37 | 21.36 | 3146 | 0.51 |
| QCI/COAL/JSW/SH/68 | 7-Dec-20 | 41.60 | 23.70 | 13.03 | 21.67 | 3107 | 0.43 |
| QCI/COAL/JSW/SH/69 | 8-Dec-20 | 40.25 | 23.88 | 14.49 | 21.38 | 3015 | 0.37 |
| QCI/COAL/JSW/SH/70 | 9-Dec-20 | 41.75 | 23.22 | 13.60 | 21.43 | 3042 | 0.45 |
| QCI/COAL/JSW/SH/71 | 10-Dec-20 | 41.80 | 26.14 | 10.01 | 22.05 | 3057 | 0.49 |
| QCI/COAL/JSW/SH/72 | 11-Dec-20 | 42.60 | 25.12 | 11.78 | 20.50 | 3095 | 0.47 |
| QCI/COAL/JSW/SH/73 | 12-Dec-20 | 41.85 | 24.89 | 12.51 | 20.74 | 3081 | 0.40 |
| QCI/COAL/JSW/SH/74 | 13-Dec-20 | 40.70 | 26.26 | 12.18 | 20.86 | 3260 | 0.41 |
| QCI/COAL/JSW/SH/75 | 14-Dec-20 | 40.65 | 23.51 | 15.14 | 20.70 | 2983 | 0.42 |
| QCI/COAL/JSW/SH/76 | 15-Dec-20 | 42.40 | 23.88 | 11.98 | 21.74 | 3147 | 0.44 |
| QCI/COAL/JSW/SH/77 | 16-Dec-20 | 40.20 | 24.06 | 14.33 | 21.42 | 3131 | 0.37 |
| QCI/COAL/JSW/SH/78 | 17-Dec-20 | 41.85 | 25.39 | 12.18 | 20.59 | 3134 | 0.33 |
| QCI/COAL/JSW/SH/79 | 18-Dec-20 | 40.25 | 24.04 | 15.10 | 20.61 | 3032 | 0.41 |
| QCI/COAL/JSW/SH/80 | 19-Dec-20 | 42.15 | 23.82 | 11.64 | 22.39 | 3136 | 0.42 |
| QCI/COAL/JSW/SH/81 | 20-Dec-20 | 42.15 | 23.41 | 11.59 | 22.85 | 3191 | 0.38 |
| QCI/COAL/JSW/SH/82 | 21-Dec-20 | 42.20 | 23.41 | 13.01 | 21.38 | 2970 | 0.41 |

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Report ID: QCI/COAL/JSW/SH/CR/06

Date: 16th Feb'2021

| Sample Code | Date of Sample collection | As Received Basis | | | | | |
|--------------------|---------------------------|-------------------|------------------------|-------|---------------------|---------------------------------------|-----------|
| | | Total Moisture % | Volatile Matter (VM) % | Ash % | Fixed Carbon (FC) % | Gross Calorific Value (GCV) "Kcal/kg" | Sulphur % |
| QCI/COAL/JSW/SH/83 | 22-Dec-20 | 40.95 | 23.59 | 12.13 | 23.33 | 3168 | 0.38 |
| QCI/COAL/JSW/SH/84 | 23-Dec-20 | 41.30 | 22.68 | 13.68 | 22.33 | 3068 | 0.36 |
| QCI/COAL/JSW/SH/85 | 24-Dec-20 | 40.75 | 23.76 | 14.86 | 20.63 | 3049 | 0.42 |
| QCI/COAL/JSW/SH/86 | 25-Dec-20 | 41.90 | 22.46 | 15.38 | 20.26 | 2913 | 0.39 |
| QCI/COAL/JSW/SH/87 | 26-Dec-20 | 41.55 | 22.95 | 14.87 | 20.63 | 2930 | 0.43 |
| QCI/COAL/JSW/SH/88 | 27-Dec-20 | 40.55 | 21.69 | 20.10 | 17.66 | 2623 | 0.41 |
| QCI/COAL/JSW/SH/89 | 28-Dec-20 | 41.20 | 23.62 | 15.01 | 20.18 | 3015 | 0.31 |
| QCI/COAL/JSW/SH/90 | 29-Dec-20 | 40.10 | 24.03 | 14.33 | 21.55 | 3106 | 0.43 |
| QCI/COAL/JSW/SH/91 | 30-Dec-20 | 42.35 | 24.39 | 11.74 | 21.52 | 3163 | 0.44 |
| QCI/COAL/JSW/SH/92 | 31-Dec-20 | 41.45 | 24.40 | 12.36 | 21.79 | 3200 | 0.45 |



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

Note:

Sampling and analysis done by Quality Council of India (QCI) with the help of its Technical service provider.

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



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Report ID: QCI/COAL/JSW/SH/CR/09
Source Name: SCREENHOUSE (As Fired)
Consumer Name: JSW Energy, Barmer Limited
Collection Month: January'21

Date: 16th Feb'2021

This is to certify that the day wise analysis reports of Lignite Coal (As received basis) collected from Conveyor belt feeding to Unit #1, 2, 3, 4, 5, 6, 7 and 8 for the month of January'21 is mentioned below:

| Sample Code | Date of Sample collection | As Received Basis | | | | | |
|---------------------|---------------------------|-------------------|------------------------|-------|---------------------|---------------------------------------|-----------|
| | | Total Moisture % | Volatile Matter (VM) % | Ash % | Fixed Carbon (FC) % | Gross Calorific Value (GCV) "Kcal/kg" | Sulphur % |
| QCI/COAL/JSW/SH/93 | 1-Jan-21 | 40.75 | 24.08 | 13.28 | 21.89 | 3151 | 0.50 |
| QCI/COAL/JSW/SH/94 | 2-Jan-21 | 42.15 | 24.54 | 9.98 | 23.34 | 3338 | 0.31 |
| QCI/COAL/JSW/SH/95 | 3-Jan-21 | 42.10 | 24.06 | 9.99 | 23.86 | 3329 | 0.30 |
| QCI/COAL/JSW/SH/96 | 4-Jan-21 | 42.55 | 25.25 | 8.13 | 24.07 | 3419 | 0.33 |
| QCI/COAL/JSW/SH/97 | 5-Jan-21 | 43.45 | 24.88 | 7.98 | 23.70 | 3404 | 0.33 |
| QCI/COAL/JSW/SH/98 | 6-Jan-21 | 42.85 | 24.03 | 10.56 | 22.56 | 3253 | 0.46 |
| QCI/COAL/JSW/SH/99 | 7-Jan-21 | 44.60 | 24.11 | 8.79 | 22.50 | 3274 | 0.36 |
| QCI/COAL/JSW/SH/100 | 8-Jan-21 | 42.50 | 24.60 | 9.43 | 23.47 | 3267 | 0.27 |
| QCI/COAL/JSW/SH/101 | 9-Jan-21 | 41.35 | 24.16 | 10.68 | 23.81 | 3205 | 0.34 |
| QCI/COAL/JSW/SH/102 | 10-Jan-21 | 40.85 | 25.56 | 9.79 | 23.80 | 3364 | 0.29 |
| QCI/COAL/JSW/SH/103 | 11-Jan-21 | 42.10 | 25.19 | 9.46 | 23.25 | 3380 | 0.43 |
| QCI/COAL/JSW/SH/104 | 12-Jan-21 | 42.85 | 23.74 | 11.24 | 22.17 | 3153 | 0.42 |
| QCI/COAL/JSW/SH/105 | 13-Jan-21 | 42.10 | 24.37 | 10.47 | 23.06 | 3234 | 0.34 |
| QCI/COAL/JSW/SH/106 | 14-Jan-21 | 41.85 | 24.34 | 10.17 | 23.64 | 3266 | 0.45 |
| QCI/COAL/JSW/SH/107 | 15-Jan-21 | 41.35 | 24.62 | 12.04 | 21.99 | 3207 | 0.46 |
| QCI/COAL/JSW/SH/108 | 16-Jan-21 | 42.15 | 23.46 | 11.02 | 23.37 | 3281 | 0.29 |
| QCI/COAL/JSW/SH/109 | 17-Jan-21 | 42.55 | 23.44 | 10.61 | 23.40 | 3239 | 0.30 |
| QCI/COAL/JSW/SH/110 | 18-Jan-21 | 42.35 | 23.60 | 11.06 | 22.99 | 3205 | 0.47 |
| QCI/COAL/JSW/SH/111 | 19-Jan-21 | 41.30 | 24.14 | 12.32 | 22.23 | 3147 | 0.47 |
| QCI/COAL/JSW/SH/112 | 20-Jan-21 | 41.40 | 25.58 | 11.19 | 21.82 | 3262 | 0.37 |
| QCI/COAL/JSW/SH/113 | 21-Jan-21 | 41.20 | 20.54 | 12.97 | 25.29 | 3172 | 0.45 |



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Report ID: QCI/COAL/JSW/SH/CR/09

Date: 16th Feb'2021

| Sample Code | Date of Sample collection | As Received Basis | | | | | |
|---------------------|---------------------------|-------------------|------------------------|-------|---------------------|---------------------------------------|-----------|
| | | Total Moisture % | Volatile Matter (VM) % | Ash % | Fixed Carbon (FC) % | Gross Calorific Value (GCV) "Kcal/kg" | Sulphur % |
| QCI/COAL/JSW/SH/114 | 22-Jan-21 | 41.05 | 25.37 | 11.32 | 22.27 | 3338 | 0.64 |
| QCI/COAL/JSW/SH/115 | 23-Jan-21 | 42.45 | 25.89 | 8.63 | 23.03 | 3393 | 0.53 |
| QCI/COAL/JSW/SH/116 | 24-Jan-21 | 41.80 | 25.56 | 9.92 | 22.72 | 3330 | 0.35 |
| QCI/COAL/JSW/SH/117 | 25-Jan-21 | 41.50 | 24.33 | 12.58 | 21.59 | 3178 | 0.46 |
| QCI/COAL/JSW/SH/118 | 26-Jan-21 | 41.60 | 24.26 | 11.66 | 22.48 | 3457 | 0.59 |
| QCI/COAL/JSW/SH/119 | 27-Jan-21 | 42.90 | 24.28 | 9.69 | 23.13 | 3265 | 0.49 |
| QCI/COAL/JSW/SH/120 | 28-Jan-21 | 41.95 | 24.82 | 10.67 | 22.56 | 3294 | 0.44 |
| QCI/COAL/JSW/SH/121 | 29-Jan-21 | 40.80 | 24.04 | 13.26 | 21.91 | 3138 | 0.44 |
| QCI/COAL/JSW/SH/122 | 30-Jan-21 | 42.90 | 25.12 | 8.20 | 23.77 | 3408 | 0.48 |
| QCI/COAL/JSW/SH/123 | 31-Jan-21 | 40.70 | 25.53 | 10.64 | 23.13 | 3381 | 0.46 |


Mr. K.C. Srivastava
Deputy Director
Accounts Division, QCI

Note:

Sampling and analysis done by Quality Council of India (QCI) with the help of its Technical service provider.

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

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Report ID: QCI/COAL/JSW/SH/CR/12
Source Name: SCREENHOUSE (As Fired)
Consumer Name: JSW Energy, Barmer Limited
Collection Month: February'21

Date: 9th Mar'2021

This is to certify that the day wise analysis reports of Lignite Coal (As Received basis) collected from Conveyor belt feeding to Unit #1, 2, 3, 4, 5, 6, 7 and 8 for the month of February'21 is mentioned below:

| Sample Code | Date of Sample collection | As Received Basis | | | | | |
|---------------------|---------------------------|-------------------|------------------------|-------|---------------------|---------------------------------------|-----------|
| | | Total Moisture % | Volatile Matter (VM) % | Ash % | Fixed Carbon (FC) % | Gross Calorific Value (GCV) "Kcal/kg" | Sulphur % |
| QCI/COAL/JSW/SH/124 | 01.02.2021 | 42.35 | 25.42 | 8.61 | 23.62 | 3407 | 0.43 |
| QCI/COAL/JSW/SH/125 | 02.02.2021 | 41.15 | 24.23 | 11.50 | 23.13 | 3285 | 0.42 |
| QCI/COAL/JSW/SH/126 | 03.02.2021 | 41.75 | 25.10 | 9.40 | 23.75 | 3359 | 0.48 |
| QCI/COAL/JSW/SH/127 | 04.02.2021 | 39.90 | 23.48 | 16.16 | 20.45 | 2965 | 0.41 |
| QCI/COAL/JSW/SH/128 | 05.02.2021 | 41.80 | 25.06 | 11.09 | 22.04 | 3282 | 0.48 |
| QCI/COAL/JSW/SH/129 | 06.02.2021 | 41.15 | 23.44 | 14.30 | 21.12 | 3046 | 0.63 |
| QCI/COAL/JSW/SH/130 | 07.02.2021 | 39.05 | 23.04 | 18.75 | 19.17 | 2853 | 0.54 |
| QCI/COAL/JSW/SH/131 | 08.02.2021 | 40.25 | 23.72 | 16.90 | 19.13 | 2850 | 0.41 |
| QCI/COAL/JSW/SH/132 | 09.02.2021 | 40.50 | 22.37 | 17.88 | 19.25 | 2822 | 0.53 |
| QCI/COAL/JSW/SH/133 | 10.02.2021 | 40.85 | 22.65 | 15.22 | 21.28 | 2944 | 0.43 |
| QCI/COAL/JSW/SH/134 | 11.02.2021 | 38.90 | 23.02 | 19.27 | 18.82 | 2790 | 0.51 |
| QCI/COAL/JSW/SH/135 | 12.02.2021 | 41.65 | 23.69 | 12.96 | 21.70 | 3120 | 0.50 |
| QCI/COAL/JSW/SH/136 | 13.02.2021 | 40.80 | 25.00 | 13.06 | 21.14 | 3200 | 0.49 |
| QCI/COAL/JSW/SH/137 | 14.02.2021 | 40.75 | 24.89 | 12.12 | 22.25 | 3279 | 0.40 |
| QCI/COAL/JSW/SH/138 | 15.02.2021 | 42.25 | 24.35 | 10.14 | 23.26 | 3300 | 0.40 |
| QCI/COAL/JSW/SH/139 | 16.02.2021 | 42.55 | 24.31 | 9.26 | 23.88 | 3356 | 0.43 |
| QCI/COAL/JSW/SH/140 | 17.02.2021 | 42.95 | 25.01 | 8.86 | 23.17 | 3353 | 0.36 |
| QCI/COAL/JSW/SH/141 | 18.02.2021 | 42.05 | 25.48 | 9.60 | 22.87 | 3388 | 0.40 |
| QCI/COAL/JSW/SH/142 | 19.02.2021 | 41.90 | 24.97 | 10.33 | 22.80 | 3345 | 0.55 |
| QCI/COAL/JSW/SH/143 | 20.02.2021 | 40.60 | 24.60 | 13.44 | 21.36 | 3200 | 0.31 |
| QCI/COAL/JSW/SH/144 | 21.02.2021 | 37.90 | 24.35 | 18.13 | 19.62 | 2964 | 0.32 |



Patel

ANNEXURE-III



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Report ID: QCI/COAL/JSW/SH/CR/12

Date: 9th Mar'2021

| Sample Code | Date of Sample collection | As Received Basis | | | | | |
|---------------------|---------------------------|-------------------|------------------------|-------|---------------------|---------------------------------------|-----------|
| | | Total Moisture % | Volatile Matter (VM) % | Ash % | Fixed Carbon (FC) % | Gross Calorific Value (GCV) "Kcal/kg" | Sulphur % |
| QCI/COAL/JSW/SH/145 | 22.02.2021 | 38.15 | 23.87 | 17.32 | 20.66 | 3003 | 0.33 |
| QCI/COAL/JSW/SH/146 | 23.02.2021 | 40.10 | 26.34 | 11.91 | 21.65 | 3322 | 0.37 |
| QCI/COAL/JSW/SH/147 | 24.02.2021 | 40.45 | 25.93 | 11.70 | 21.91 | 3328 | 0.35 |
| QCI/COAL/JSW/SH/148 | 25.02.2021 | 40.20 | 24.60 | 12.81 | 22.39 | 3277 | 0.43 |
| QCI/COAL/JSW/SH/149 | 26.02.2021 | 40.15 | 25.03 | 13.30 | 21.51 | 3193 | 0.45 |
| QCI/COAL/JSW/SH/150 | 27.02.2021 | 39.15 | 23.67 | 15.28 | 21.90 | 3107 | 0.39 |
| QCI/COAL/JSW/SH/151 | 28.02.2021 | 41.45 | 24.62 | 11.36 | 22.57 | 3232 | 0.43 |

Signature



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

Note:

Sampling and analysis done by Quality Council of India (QCI) with the help of its Technical service provider.

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



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Report ID: QCI/COAL/JSW/SH/CR/15
Source Name: SCREENHOUSE (As Fired)
Consumer Name: JSW Energy, Barmer Limited
Collection Month: March'21

Date: 06th Apr'2021

This is to certify that the day wise analysis reports of Lignite Coal (As Received basis) collected from Conveyor belt feeding to Unit #1, 2, 3, 4, 5, 6, 7 and 8 for the month of March'21 is mentioned below:

| Sample Code | Date of Sample collection | As Received Basis | | | | | |
|---------------------|---------------------------|-------------------|------------------------|-------|---------------------|---------------------------------------|-----------|
| | | Total Moisture % | Volatile Matter (VM) % | Ash % | Fixed Carbon (FC) % | Gross Calorific Value (GCV) "Kcal/kg" | Sulphur % |
| QCI/COAL/JSW/SH/152 | 01.03.2021 | 39.25 | 25.90 | 16.45 | 18.39 | 2994 | 0.33 |
| QCI/COAL/JSW/SH/153 | 02.03.2021 | 39.65 | 23.53 | 16.15 | 20.67 | 3002 | 0.29 |
| QCI/COAL/JSW/SH/154 | 03.03.2021 | 38.80 | 25.23 | 14.42 | 21.55 | 3192 | 0.46 |
| QCI/COAL/JSW/SH/155 | 04.03.2021 | 40.65 | 24.18 | 14.24 | 20.93 | 3132 | 0.31 |
| QCI/COAL/JSW/SH/156 | 05.03.2021 | 39.90 | 24.05 | 15.03 | 21.02 | 3088 | 0.33 |
| QCI/COAL/JSW/SH/157 | 06.03.2021 | 39.35 | 23.53 | 17.26 | 19.86 | 2934 | 0.32 |
| QCI/COAL/JSW/SH/158 | 07.03.2021 | 39.95 | 24.57 | 14.87 | 20.61 | 3058 | 0.24 |
| QCI/COAL/JSW/SH/159 | 08.03.2021 | 39.95 | 26.22 | 11.55 | 22.28 | 3361 | 0.61 |
| QCI/COAL/JSW/SH/160 | 09.03.2021 | 39.25 | 27.14 | 10.61 | 23.01 | 3466 | 0.45 |
| QCI/COAL/JSW/SH/161 | 10.03.2021 | 39.45 | 26.75 | 11.86 | 21.94 | 3296 | 0.51 |
| QCI/COAL/JSW/SH/162 | 11.03.2021 | 37.40 | 25.25 | 17.17 | 20.19 | 3051 | 0.38 |
| QCI/COAL/JSW/SH/163 | 12.03.2021 | 41.00 | 24.92 | 11.67 | 22.42 | 3254 | 0.37 |
| QCI/COAL/JSW/SH/164 | 13.03.2021 | 40.10 | 26.00 | 11.68 | 22.22 | 3290 | 0.51 |
| QCI/COAL/JSW/SH/165 | 14.03.2021 | 38.30 | 25.64 | 14.39 | 21.67 | 3211 | 0.49 |
| QCI/COAL/JSW/SH/166 | 15.03.2021 | 39.30 | 24.61 | 13.88 | 22.21 | 3167 | 0.38 |
| QCI/COAL/JSW/SH/167 | 16.03.2021 | 39.20 | 25.53 | 13.48 | 21.79 | 3220 | 0.54 |
| QCI/COAL/JSW/SH/168 | 17.03.2021 | 39.50 | 24.74 | 15.03 | 20.73 | 3088 | 0.33 |
| QCI/COAL/JSW/SH/169 | 18.03.2021 | 38.50 | 25.94 | 14.60 | 20.96 | 3216 | 0.23 |
| QCI/COAL/JSW/SH/170 | 19.03.2021 | 40.30 | 24.94 | 12.61 | 22.16 | 3255 | 0.35 |
| QCI/COAL/JSW/SH/171 | 20.03.2021 | 39.90 | 25.41 | 12.43 | 22.26 | 3276 | 0.31 |
| QCI/COAL/JSW/SH/172 | 21.03.2021 | 38.25 | 24.10 | 17.27 | 20.37 | 2946 | 0.36 |



Signature

QCI is an autonomous body, setup by Government of India, to establish & operate national accreditation structure and promote quality
Tel. : +91-11-2337 9321, 2337 8056 • Fax : +91-11-2337 8678 • Web : www.qcin.org

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/CR/15

Date: 06th Apr'2021

| Sample Code | Date of Sample collection | As Received Basis | | | | | |
|---------------------|---------------------------|-------------------|------------------------|-------|---------------------|---------------------------------------|-----------|
| | | Total Moisture % | Volatile Matter (VM) % | Ash % | Fixed Carbon (FC) % | Gross Calorific Value (GCV) "Kcal/kg" | Sulphur % |
| QCI/COAL/JSW/SH/173 | 22.03.2021 | 40.65 | 25.32 | 10.33 | 23.71 | 3344 | 0.45 |
| QCI/COAL/JSW/SH/174 | 23.03.2021 | 41.35 | 24.45 | 11.88 | 22.32 | 3210 | 0.32 |
| QCI/COAL/JSW/SH/175 | 24.03.2021 | 41.10 | 25.25 | 11.03 | 22.62 | 3258 | 0.46 |
| QCI/COAL/JSW/SH/176 | 25.03.2021 | 40.00 | 23.70 | 15.87 | 20.43 | 2965 | 0.41 |
| QCI/COAL/JSW/SH/177 | 26.03.2021 | 41.25 | 24.45 | 12.45 | 21.84 | 3116 | 0.32 |
| QCI/COAL/JSW/SH/178 | 27.03.2021 | 40.85 | 25.76 | 10.59 | 22.80 | 3326 | 0.49 |
| QCI/COAL/JSW/SH/179 | 28.03.2021 | 42.05 | 22.56 | 17.16 | 18.23 | 2694 | 0.25 |
| QCI/COAL/JSW/SH/180 | 29-03-2021 | 37.80 | 26.73 | 11.81 | 23.66 | 3447 | 0.43 |
| QCI/COAL/JSW/SH/181 | 30-03-2021 | 39.15 | 24.64 | 16.29 | 19.92 | 2998 | 0.32 |
| QCI/COAL/JSW/SH/182 | 31-03-2021 | 44.20 | 24.96 | 7.65 | 23.18 | 3355 | 0.44 |



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



Note:

Sampling and analysis done by Quality Council of India (QCI) with the help of its Technical service provider.

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

Unit # 1 - Continuous Emission Monitoring System-CEMS DATA

| Month | | SOX mg/m3 | NOX mg/m3 | SPM mg/m3 |
|--------|---------|-----------|-----------|-----------|
| 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 |
|--------|---------|-----------|-----------|-----------|
| 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 |
|--------|---------|-----------|-----------|-----------|
| 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 |

Unit # 4 - Continuous Emission Monitoring System-CEMS DATA

| Month | | SOX mg/m3 | NOX mg/m3 | SPM mg/m3 |
|--------|---------|-----------|-----------|-----------|
| 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 |
|--------|---------|-----------|-----------|-----------|
| 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 |

Unit # 6 - Continuous Emission Monitoring System-CEMS DATA

| Month | | SOX mg/m3 | NOX mg/m3 | SPM mg/m3 |
|--------|---------|-----------|-----------|-----------|
| 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 |
|--------|---------|-----------|-----------|-----------|
| 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 |

Unit # 8 - Continuous Emission Monitoring System-CEMS DATA

| Month | | SOX mg/m3 | NOX mg/m3 | SPM mg/m3 |
|--------|---------|-----------|-----------|-----------|
| 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-IV

STACK EMISSION MONITORING RESULTS OCT – 2020 to MAR – 2021

Month: Oct' 2020

| SN | Parameters | UOM | Unit-I | Unit-II | Unit-III | Unit-IV | Unit-V | Unit-VI | Unit-VII | Unit-VIII |
|----|--------------------|----------------------|--------|---------|----------|---------|--------|---------|----------|-----------|
| 1 | Average Velocity | m/Sec | 17.7 | 17.9 | 17.8 | 17.7 | 17.4 | 17.6 | 17.9 | 17.7 |
| 2 | Flow | Nm ³ /Sec | 136 | 136 | 134 | 133 | 134 | 136 | 135 | 137 |
| 3 | Stack Exit Temp. | °C | 142 | 139 | 158 | 152 | 127 | 134 | 135 | 144 |
| 4 | Particulate Matter | mg/Nm ³ | 53.7 | 51.6 | 49.4 | 50.2 | 54.8 | 50.3 | 48.2 | 53.6 |
| 5 | Sulphur Dioxide | mg/Nm ³ | 462 | 482 | 467 | 471 | 462 | 469 | 474 | 471 |
| 6 | Oxides of Nitrogen | mg/Nm ³ | 172 | 178 | 177 | 176 | 175 | 176 | 179 | 174 |

Month: Nov' 2020

| SN | Parameters | UOM | Unit-I | Unit-II | Unit-III | Unit-IV | Unit-V | Unit-VI | Unit-VII | Unit-VIII |
|----|--------------------|----------------------|--------|---------|----------|---------|--------|---------|----------|-----------|
| 1 | Average Velocity | m/Sec | 17.8 | 17.7 | 17.8 | 17.7 | 17.2 | 17.6 | 17.9 | 17.7 |
| 2 | Flow | Nm ³ /Sec | 137 | 137 | 134 | 134 | 135 | 136 | 135 | 137 |
| 3 | Stack Exit Temp. | °C | 146 | 141 | 148 | 149 | 132 | 134 | 135 | 144 |
| 4 | Particulate Matter | mg/Nm ³ | 52.9 | 54.6 | 49.4 | 53.2 | 51.9 | 49.2 | 55.3 | 51.7 |
| 5 | Sulphur Dioxide | mg/Nm ³ | 461 | 485 | 467 | 478 | 473 | 477 | 471 | 476 |
| 6 | Oxides of Nitrogen | mg/Nm ³ | 169 | 183 | 177 | 172 | 178 | 171 | 172 | 170 |

Month: Dec' 2020

| SN | Parameters | UOM | Unit-I | Unit-II | Unit-III | Unit-IV | Unit-V | Unit-VI | Unit-VII | Unit-VIII |
|----|--------------------|----------------------|--------|---------|----------|---------|--------|---------|----------|-----------|
| 1 | Average Velocity | m/Sec | 17.6 | 17.8 | 17.6 | 17.6 | 17.7 | 16.9 | 16.4 | 17.7 |
| 2 | Flow | Nm ³ /Sec | 138 | 138 | 136 | 135 | 135 | 136 | 133 | 137 |
| 3 | Stack Exit Temp. | °C | 148 | 142 | 152 | 153 | 132 | 134 | 134 | 144 |
| 4 | Particulate Matter | mg/Nm ³ | 53.8 | 55.1 | 50.8 | 51.4 | 50.3 | 45.2 | 53.2 | 53.7 |
| 5 | Sulphur Dioxide | mg/Nm ³ | 467 | 486 | 462 | 470 | 467 | 477 | 469 | 471 |
| 6 | Oxides of Nitrogen | mg/Nm ³ | 170 | 186 | 172 | 167 | 183 | 185 | 163 | 177 |

ANNEXURE-IV

Month: Jan' 2021

| SN | Parameters | UOM | Unit-I | Unit-II | Unit-III | Unit-IV | Unit-V | Unit-VI | Unit-VII | Unit-VIII |
|----|--------------------|----------------------|--------|---------|----------|---------|--------|---------|----------|-----------|
| 1 | Average Velocity | m/Sec | 17.2 | 17.2 | 17.6 | 17.8 | 17.6 | 16.3 | 16.1 | 17.5 |
| 2 | Flow | Nm ³ /Sec | 139 | 137 | 138 | 135 | 136 | 136 | 134 | 139 |
| 3 | Stack Exit Temp. | °C | 153 | 165 | 150 | 153 | 138 | 124 | 154 | 184 |
| 4 | Particulate Matter | mg/Nm ³ | 68.1 | 45.1 | 54.9 | 53.2 | 38.7 | 33.2 | 40.1 | 54.3 |
| 5 | Sulphur Dioxide | mg/Nm ³ | 191 | 289 | 322 | 430 | 301 | 122 | 246 | 471 |
| 6 | Oxides of Nitrogen | mg/Nm ³ | 131 | 79 | 132 | 158 | 68.1 | 60 | 43 | 107 |

Month: Feb' 2021

| SN | Parameters | UOM | Unit-I | Unit-II | Unit-III | Unit-IV | Unit-V | Unit-VI | Unit-VII | Unit-VIII |
|----|--------------------|----------------------|----------|---------|----------|---------|--------|---------|----------|-----------|
| 1 | Average Velocity | m/Sec | Shutdown | 17.7 | 17.6 | 17.8 | 17.6 | 16.3 | 16.7 | 17.6 |
| 2 | Flow | Nm ³ /Sec | | 138 | 138 | 135 | 136 | 153 | 135 | 139 |
| 3 | Stack Exit Temp. | °C | | 201 | 148 | 153 | 144 | 174 | 124 | 184 |
| 4 | Particulate Matter | mg/Nm ³ | | 25.5 | 52.1 | 52.1 | 58.7 | 63.1 | 72.2 | 56.8 |
| 5 | Sulphur Dioxide | mg/Nm ³ | | 289 | 322 | 360 | 391 | 422 | 466 | 441 |
| 6 | Oxides of Nitrogen | mg/Nm ³ | | 79.4 | 132 | 162 | 123 | 241 | 53 | 128 |

Month: March' 2021

| SN | Parameters | UOM | Unit-I | Unit-II | Unit-III | Unit-IV | Unit-V | Unit-VI | Unit-VII | Unit-VIII |
|----|--------------------|----------------------|--------|---------|----------|---------|--------|---------|----------|-----------|
| 1 | Average Velocity | m/Sec | 17.4 | 17.5 | 17.7 | 17.1 | 17.6 | 16.3 | 16.1 | 17.3 |
| 2 | Flow | Nm ³ /Sec | 139 | 137 | 138 | 136 | 136 | 135 | 135 | 137 |
| 3 | Stack Exit Temp. | °C | 182 | 167 | 153 | 149 | 145 | 179 | 126 | 186 |
| 4 | Particulate Matter | mg/Nm ³ | 69.3 | 25.5 | 52.1 | 73.3 | 78.2 | 78.1 | 52.6 | 64.7 |
| 5 | Sulphur Dioxide | mg/Nm ³ | 413 | 364 | 322 | 353 | 413 | 372 | 446 | 473 |
| 6 | Oxides of Nitrogen | mg/Nm ³ | 175 | 179 | 132 | 150 | 142 | 140 | 135 | 128 |

**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**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. | 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 (%) | 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 | 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 |

**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

**Energy (Barmer) Limited**

(Formerly : Raj WestPower Limited)

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

Distt : Barmer – 344001 (Rajasthan)

CIN : U31102MH1996PLC185098

Phone : +91 2982 229100

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Website : www.jsw.in**ANNEXURE-VI****Noise Level Monitoring- Oct' 2020 – Mar, 2021**

| S N | Month | Oct | | Nov | | Dec | | Jan | | Feb | | March | |
|--------|------------------------|------|-------|------|-------|------|-------|------|-------|------|-------|-------|-------|
| | Noise Levels dB (A) | Day | Night | Day | Night | Day | Night | Day | Night | Day | Night | Day | Night |
| 1 | MAIN GATE INSIDE | 72.9 | 64.1 | 71.2 | 63.2 | 60.1 | 57.9 | 70.1 | 67.9 | 72.4 | 65.1 | 73.7 | 62.9 |
| 2 | COOLING TOWER END | 73.2 | 63.8 | 72.5 | 64.2 | 72.5 | 60.2 | 71.6 | 68.9 | 73.1 | 62.7 | 72.5 | 60.2 |
| 3 | NORTH WEST CORNER | 72.5 | 65.9 | 72.6 | 65.9 | 73.7 | 66.5 | 72.3 | 62.5 | 71.7 | 64.1 | 73.2 | 64.1 |
| 4 | Bhadresh Village | 52.7 | 43.8 | 53.6 | 44.1 | 53.4 | 44.2 | 54.1 | 48.2 | 53.1 | 47.9 | 54.8 | 44.2 |
| 5 | Isharpura Village | 53.8 | 44.1 | 53.1 | 45.3 | 53.1 | 52.3 | 52.1 | 44.3 | 52.6 | 42.0 | 54.2 | 43.3 |
| 6 | Chuli Village | 52.8 | 47.4 | 50.4 | 45.1 | 50.3 | 35.1 | 51.1 | 42.2 | 54.3 | 43.8 | 54.3 | 42.4 |

**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

ANNEXURE-VII
Ambient Air Quality Data- OCT – 2020 to MAR – 2021
Month – Oct' 2020

| SN | Location (Avg.24 Hrs.) | PM-10 ($\mu\text{g}/\text{m}^3$) | SO2 ($\mu\text{g}/\text{m}^3$) | NO2 ($\mu\text{g}/\text{m}^3$) | CO (mg/m^3) | PM-2.5 ($\mu\text{g}/\text{m}^3$) |
|----|-------------------------|---------------------------------------|-------------------------------------|-------------------------------------|----------------------------------|--|
| 1 | Reservoir Area | 31.6 | 14.2 | 27.4 | 1.0 | 9.2 |
| 2 | Main Gate | 42.2 | 13.4 | 23.6 | 0.40 | 32.3 |
| 3 | Ash pond | 21.2 | 14.8 | 21.4 | 2.01 | 12.0 |
| 4 | Bhardesh Village | 71.0 | 16.6 | 26.4 | 0.14 | 33.7 |
| 5 | Ishrpura Village | 67.8 | 14.4 | 26.7 | 0.31 | 33.3 |
| 6 | Chuli Village | 68.4 | 13.5 | 25.9 | 0.24 | 33.8 |

Month – Nov' 2020

| SN | Location (Avg.24 Hrs.) | PM-10 ($\mu\text{g}/\text{m}^3$) | SO2 ($\mu\text{g}/\text{m}^3$) | NO2 ($\mu\text{g}/\text{m}^3$) | CO (mg/m^3) | PM-2.5 ($\mu\text{g}/\text{m}^3$) |
|----|-------------------------|---------------------------------------|-------------------------------------|-------------------------------------|----------------------------------|--|
| 1 | Reservoir Area | 33.2 | 15.4 | 26.6 | 1 | 10.2 |
| 2 | Main Gate | 49.2 | 11.2 | 23.4 | 1.2 | 28.1 |
| 3 | Ash pond | 19.4 | 16.5 | 21.5 | 1.5 | 12.1 |
| 4 | Bhardesh Village | 70.1 | 19.8 | 27.4 | 0.2 | 35.4 |
| 5 | Ishrpura Village | 69.9 | 16.4 | 27.8 | 0.3 | 36.9 |
| 6 | Chuli Village | 70.8 | 14.7 | 30.8 | 0.2 | 31.0 |

Month – Dec' 2020

| SN | Location (Avg.24 Hrs.) | PM-10 ($\mu\text{g}/\text{m}^3$) | SO2 ($\mu\text{g}/\text{m}^3$) | NO2 ($\mu\text{g}/\text{m}^3$) | CO (mg/m^3) | PM-2.5 ($\mu\text{g}/\text{m}^3$) |
|----|-------------------------|---------------------------------------|-------------------------------------|-------------------------------------|----------------------------------|--|
| 1 | Reservoir Area | 32.8 | 16.9 | 23.7 | 0.92 | 9.9 |
| 2 | Main Gate | 49.9 | 15.8 | 23.8 | 0.82 | 23.0 |
| 3 | Ash pond | 21.0 | 16.4 | 22.0 | 1.02 | 11.7 |
| 4 | Bhardesh Village | 74.2 | 16.5 | 28.3 | 0.22 | 35.4 |
| 5 | Ishrpura Village | 64.9 | 14.5 | 29.3 | 0.33 | 46.0 |
| 6 | Chuli Village | 65.9 | 14.2 | 27.2 | 0.22 | 32.3 |

ANNEXURE-VII

Month – Jan' 2021

| SN | Location (Avg.24 Hrs.) | PM-10 ($\mu\text{g}/\text{m}^3$) | SO2 ($\mu\text{g}/\text{m}^3$) | NO2 ($\mu\text{g}/\text{m}^3$) | CO (mg/m^3) | PM-2.5 ($\mu\text{g}/\text{m}^3$) |
|----|-------------------------|---------------------------------------|-------------------------------------|-------------------------------------|----------------------------------|--|
| 1 | Reservoir Area | 35.3 | 10.9 | 23.6 | 0.42 | 11.6 |
| 2 | Main Gate | 47.6 | 8.69 | 23.7 | 0.79 | 27.8 |
| 3 | Ash pond | 19.3 | 15.7 | 21.9 | 0.76 | 13.6 |
| 4 | Bhardesh Village | 75.6 | 17.0 | 27.6 | 0.23 | 36.2 |
| 5 | Ishrpura Village | 75.4 | 10.8 | 27.3 | 0.25 | 56.2 |
| 6 | Chuli Village | 64.3 | 14.5 | 29.5 | 0.21 | 28.6 |

Month – Feb' 2021

| SN | Location (Avg.24 Hrs.) | PM-10 ($\mu\text{g}/\text{m}^3$) | SO2 ($\mu\text{g}/\text{m}^3$) | NO2 ($\mu\text{g}/\text{m}^3$) | CO (mg/m^3) | PM-2.5 ($\mu\text{g}/\text{m}^3$) |
|----|-------------------------|---------------------------------------|-------------------------------------|-------------------------------------|----------------------------------|--|
| 1 | Reservoir Area | 31.8 | 16.58 | 22.9 | 0.62 | 10.1 |
| 2 | Main Gate | 38.3 | 12.0 | 23.7 | 0.55 | 23.6 |
| 3 | Ash pond | 20.8 | 15.4 | 21.9 | 0.60 | 14.4 |
| 4 | Bhardesh Village | 71.1 | 14.0 | 25.2 | 0.26 | 34.9 |
| 5 | Ishrpura Village | 73.3 | 14.0 | 26.1 | 0.39 | 52.2 |
| 6 | Chuli Village | 57.9 | 15.7 | 25.9 | 0.24 | 25.2 |

Month – March' 2021

| SN | Location (Avg.24 Hrs.) | PM-10 ($\mu\text{g}/\text{m}^3$) | SO2 ($\mu\text{g}/\text{m}^3$) | NO2 ($\mu\text{g}/\text{m}^3$) | CO (mg/m^3) | PM-2.5 ($\mu\text{g}/\text{m}^3$) |
|----|-------------------------|---------------------------------------|-------------------------------------|-------------------------------------|----------------------------------|--|
| 1 | Reservoir Area | 40.8 | 9.32 | 23.7 | 0.47 | 27.1 |
| 2 | Main Gate | 38.2 | 17.6 | 21.1 | 0.46 | 9.95 |
| 3 | Ash pond | 25.4 | 16.8 | 21.7 | 0.25 | 24.9 |
| 4 | Bhardesh Village | 66.8 | 12.2 | 24.9 | 0.26 | 35.8 |
| 5 | Ishrpura Village | 75.3 | 13.1 | 22.7 | 0.25 | 45.7 |
| 6 | Chuli Village | 60.1 | 15.7 | 25.9 | 0.24 | 32.1 |



ANNEXURE-VIII



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

Date: 11.12.2020

Ref: JSWE(B)L/ENV/20-21/024

To,
Ministry of Environment & Forests
Indira Paryavaran Bhavan,
All Ganj, Jorbagh Road,
New Delhi, Delhi 110003

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- 2020 to SEPTEMBER- 2020**, 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.

Vinod Jindal
AGM (Operation, Environment & Chemistry)

Enclosure:

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

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



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



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

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