

Six Monthly Environmental Clearance Compliance Report

October 2019 to March 2020

Rosa Power Supply Co. Ltd.
Stage_I



Ref: RPSCL/Env/EC/05/2020/5

Date: 23.05.2020

✓ To,
The Director
Ministry of Environment & Forests
Kendriya Bhawan, 5th Floor
Sector-H, Aliganj
LUCKNOW (U.P.)

Sub: Compliance Status – 2X300 MW Rosa Thermal Power Plant Stage-I

Dear Sir,

This is with reference to the Environmental Clearance no J-13011/19/2005-IA (T) dated 14.03.2006 and its subsequent amendment issued to us.

As advised please find enclosed the six monthly compliance reports both in hard & soft copy for the period of Oct 2019 to March 2020.

Thanking You,

For Rosa Power Supply Co. Ltd.


(Authorized Signatory)



Cc: (I) Regional Officer UPPCB Bareilly
(II) Regional Officer CPCB Lucknow
(III) Member Secretary UPPCB Lucknow
(IV) MoEF, New Delhi

- Encl: Six Monthly Compliance report
- Annexure 1: STP & ETP Effluent Analysis Report
 - Annexure 2: Stack Monitoring Report
 - Annexure 3: Coal Ash Analysis Report
 - Annexure 4: Ground Water Analysis Report in Ash Pond Area
 - Annexure 5: Green Belt development progress Report
 - Annexure 6: First Aid Facilities Details
 - Annexure 7: Noise Monitoring Report
 - Annexure 8: AAQ (Ambient Air Quality) Monitoring Report
 - Annexure 9: Organization Structure

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Sr. No.	Stipulated Clearance Condition	Compliance status
3. Conditions and Safeguards		
(i)	All the conditions stipulated by Uttar Pradesh Pollution Control Board vide their letter no. 5677/C-3/NOC/940/94 dated 2.5.1994 and F-51465 C-5/NOC-91/05/20 dated 14.10.2005 shall be strictly implemented.	Complied. Compliance Report submitted to UPPCB vide letter no RTPP/UPPCB/08-09/01 dated July 1, 2008
(ii)	The land to be acquired for the project shall not exceed 400 ha. Including land for the ash pond and green belt.	Complied. The total land available for stage – I & stage - II is 610 ha. The same was approved by MoEF-vide letter No. J-13011/73/2007-1A, II (T) dated 20 th July 2009.
(iii)	Closed circuit cooling system with a COC of not less than 4 shall be adopted.	Being Complied. Cooling water system designed for >4.0 Cycle of concentration. The present COC is 5.0 to 5.5.
(iv)	Rain water harvesting shall be practiced. A detailed scheme for rain water harvesting to recharge the ground water aquifer shall be prepared in consultation with Central Ground Water Authority/State Ground Water Board and a copy of the same shall be submitted within three months to the Ministry.	Complied. The project site has shallow ground water level hence artificial recharge to ground water shall not be feasible. Hence, Central Ground Water Authority has negated the above requirement vide letter No. 32-5/CGWA/RWH/OTH/08-332 dated 29/01/2008.
(v)	There shall be no construction within 500 m from the highway and within 500 m from HFL of the river. The HFL shall be determined based on studies to be carried out by an expert agency within 3 months from the date of issue of this letter. Based on the same, a map shall be prepared showing the river, its highest flood line (HFL) and 500 m distance from HFL up to which no construction shall take place. These details shall be submitted to this Ministry within three months.	MoEF has substituted vide amendment in EC dated 21 st July 2014 as " <i>In case the state Govt. undertakes widening of the state Highway No. 25, the project proponent shall extend all co-operation and support and without any claim for compensation, demolish / dismantle any construction at its own cost and relinquish the portion of area falling in the power plant area for highway extension.</i> " Amendment is noted for compliance. Further conditions no. (xxxiv to xliii) is added with amendment. Compliance of additional compliance put in subsequent continuation. A letter regarding determination of HFL, (letter No. 617/Rosa Project dated 18/02/06) issued by the Executive Engineer, Irrigation Department, Govt. of U.P., along with a map showing that the boundary of flood plane has remained more than 500 mtr. away from the location of the power plant during the last 50 years have already been submitted to MoEF.



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(vi)	The effluents from the plant after proper treatment shall be used within the plant to the extent possible and discharge of effluents outside the plant boundary shall be kept to the minimum. The effluents to be discharged into Garaah river shall conform to the standards prescribed by the State Pollution Control Board.	<p>Being Complied.</p> <p>The treated effluent is being used for ash disposal system and for horticulture and green belt development. If any treated water is excess, it is monitored for its quantity and quality and will be discharged into Garaah river.</p> <p>The Analysis report of treated waste water from STP/ETP is enclosed as Annexure-I</p>																								
(vii)	R&R plan shall be finalized within three months in accordance with the norms to be decided by the State Govt. which shall not be less than the norms prescribed in the National R&R policy. A copy of the same shall be furnished to this Ministry within six months.	<p>Completed.</p> <p>Rehabilitation & Resettlement plan has been prepared in line with NRRP 2007 and submitted to District Administration as well as MoEF. This has been completed and no pending issues are existing as of now.</p>																								
(viii)	A bi-flue stack of 275 m with exit velocity of not less than 20 m/sec and exit temperature of not less than 125 °C shall be provided with continuous on-line monitoring system. The data so collected shall be analyzed, records maintained and submitted regularly to the Regional office of this Ministry at Lucknow.	<p>Complied.</p> <p>Continuous online monitoring system of CODEL, UK make has been installed for stack emission and connected online with CPCB server also for real time data transfer. Stack Emission Monitoring Report (Iso-Kinetic) is attached as Annexure-II</p>																								
(ix)	Electrostatic Precipitators (ESPs) with an efficiency of 99.9% efficiency shall be installed to limit particulate emission within 100 mg/Nm ³ . Automatic system for shutting down the power plant in the event of non-functioning of ESPs shall be installed.	<p>Noted and incorporated to design. A brief technical detail of ESP is as under.</p> <table border="1"> <thead> <tr> <th>S.No.</th><th>Parameters</th><th>Value</th></tr> </thead> <tbody> <tr> <td>1.</td><td>Type of ESP</td><td>Double pass, 7 Electrical Fields</td></tr> <tr> <td>2.</td><td>Collection efficiency</td><td>99.94%</td></tr> <tr> <td>3.</td><td>Size of ESP</td><td>54.38x26.6x31.52</td></tr> <tr> <td>4.</td><td>Specific Collection Area</td><td>207.55 m²/m³/sec</td></tr> <tr> <td>5.</td><td>Flue Gas Velocity</td><td>0.87 m/sec</td></tr> <tr> <td>6.</td><td>Inlet Dust Concentration</td><td>54.4 g/Nm³</td></tr> <tr> <td>7.</td><td>Particulate Emission</td><td>50 mg/Nm³</td></tr> </tbody> </table>	S.No.	Parameters	Value	1.	Type of ESP	Double pass, 7 Electrical Fields	2.	Collection efficiency	99.94%	3.	Size of ESP	54.38x26.6x31.52	4.	Specific Collection Area	207.55 m ² /m ³ /sec	5.	Flue Gas Velocity	0.87 m/sec	6.	Inlet Dust Concentration	54.4 g/Nm ³	7.	Particulate Emission	50 mg/Nm ³
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(x)	Ash and Sulphur content in the coal to be used as fuel in the project shall not exceed 40% and 0.28 % respectively.	<p>Complied.</p> <p>The coal ash % is maintained at an average of 34% or below 34%</p> <p>Copy of Test Report of Coal sample enclosed as Annexure-III</p>																								



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(xi)	Fly ash should be collected in dry form and bottom ash only be disposed in the ash pond area in the form of high concentration slurry. 100% fly ash utilization shall be ensured from 5th year onward.	<p>The condition has been amended vide letter no. F. No. J-13012/19/2005-IA.II(T) dated 1st October, 2008 which states that;</p> <p>Fly ash shall be collected in dry form and storage facility of adequate capacity (silos) shall be provided. 100% utilization of fly ash shall be ensured from 4th year onwards as per MoEF Notification dated 3rd Nov 2009. Unutilized fly ash and bottom ash shall be disposed off in the ash pond through conventional slurry system."</p> <p>The ash utilization has been achieved 101% for FY 2019-20.</p>
(xii)	Regular monitoring of ground water in and around the ash pond area shall be carried out, records maintained and data furnished to the Regional Office of this Ministry.	<p>Being Complied.</p> <p>A ground water quality report is attached herewith as Annexure-IV</p>
(xiii)	Green belt will be developed all around the power plant and around ash pond area. One third (1/3) of the total plant area shall be used for green belt development.	<p>Total land of Rosa Thermal Power Plant (4x300MW) is 610Ha. As per 33% Norms of MoEF, we had to develop green belt in 201 Ha. Rosa Power has already been developed green belt / plantation over an area of 283.5 Ha which is approx 46% including township. A total of 5,92,568 trees / shrubs are already planted till date. Local species are chosen for developing green belt.</p> <p>The status of Plantation is attached as Annexure-V</p>
(xiv)	First aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	<p>First aid, ambulance & sanitation facility was provided by contractors at construction site during construction phase.</p> <p>The plant has First Aid, Ambulance and sanitation facilities at its operation also for the employees and workers. Facilities details at Occupational Health and Centre is enclosed as Annexure VI</p>
(xv)	Leq of Noise level should be limited to 75 dBA and regular maintenance of equipment be undertaken. For people working in the high noise areas, personal protection devices should be provided.	<p>The Noise level monitoring is being carried out regularly at work places and the noise level is maintained below to the stipulated norms. The people working at high noise area are being provided with PPE and facilitated with job rotation. A copy of monitoring report attached herewith as Annexure-VII</p>
(xvi)	Regular monitoring of the ambient air quality shall be carried out in and around the power plant and records maintained. Periodic six monthly reports should be submitted to the Regional Office of this Ministry.	<p>The Ambient air quality monitoring is being carried out regularly and a copy of monitoring report is attached as Annexure-VIII</p>



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(xvii)	For controlling fugitive dust, regular sprinkling of water in coal storage area and other vulnerable areas of the plant shall be ensured.	Following measures taken at CHP and other vulnerable area - 1. Dry fog system at wagon tippler 2. Dust extraction system at Crusher House 3. Water sprinkling system on conveyors and track hopper. 4. Road wetting through water tankers. 5. Speed limit of 20 kmph is maintained inside plant premises
(xviii)	The project proponent should advertise in at least 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 at Website of the Ministry of Environment and Forests at http://envfor.nic.in ,	Complied. Photocopies of the newspapers advertisements, "Dainik Jagran" and "Amar Ujala" dated 8th May, 2006, has already been submitted to your good office vide our letter dated 12/05/2006.
(xix)	A separate environment monitoring cell with suitable qualified staff should be set up for implementation of the stipulated environmental safeguards.	Rosa Power has a well equipped Environmental Cell comprising of environmental expert and staff which is headed by Head-EHS. The organization structure is enclosed as Annexure-IX .
(xx)	Half yearly report on the status of implementation of the stipulated conditions and environmental safeguards should be submitted to this Ministry/ Regional Office/CPCB/SPCB.	Half yearly report on the status of implementation of the stipulated conditions and environmental safeguards being submitted to Ministry/ Regional Office/CPCB/SPCB on or before 1 st June and 1 st December of each calendar year as per EIA Notification 2006.
(xxi)	Regional Office of the Ministry of Environment & Forests located at Lucknow will monitor the implementation of the stipulated conditions. A complete set of documents including Environmental Impact Assessment Report and Environment Management Plan should be forwarded to the Regional Office for their use during monitoring.	EIA/ EMP report already submitted to the Regional Office
(xxii)	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	Noted for Compliance. Approx Rs. 269.2 Cr. (Rs. 100Cr for Stage-1 and Rs. 169.2Cr for Stage-2) were allocated for implementation of environmental protection measures during design and construction of the power station. Further for



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	be diverted for other purposes and year-wise expenditure should be reported to the Ministry.	<p>operation of the power station, the environmental protection cost has been now increased and approx Rs.381Cr had been spent. item wise breakup is as under:</p> <p>Capital Expenditure for Stage I & II:</p> <table><tr><th>S.No</th><th>Description</th><th>Amount (Rs)</th></tr><tr><td>1</td><td>Dust Extraction System</td><td>46517</td></tr><tr><td>2</td><td>Continuous Effluent Monitoring System</td><td>1199999</td></tr><tr><td>3</td><td>Ash recovery water System</td><td>50489462</td></tr><tr><td>4</td><td>Ash Handling Plant</td><td>1682886259</td></tr><tr><td>5</td><td>Ash Disposal System</td><td>270068438</td></tr><tr><td>6</td><td>CAAQMS</td><td>17610984</td></tr><tr><td>7</td><td>Chemical & Environmental Lab -UI</td><td>1554259</td></tr><tr><td>8</td><td>Chimney</td><td>477148378</td></tr><tr><td>9</td><td>Gas emission Monitoring Instrument</td><td>17388191</td></tr><tr><td>10</td><td>Sewerage Treatment Plant</td><td>241798095</td></tr><tr><td>11</td><td>Effluent Treatment Plant</td><td>155369441</td></tr><tr><td>12</td><td>Electrostatic Precipitators</td><td>889597026</td></tr><tr><td>13</td><td>Online Coal Ash Analyser</td><td>3200000</td></tr><tr><td>14</td><td>Instrument for Online Remote Calibration of CEMS</td><td>1800000</td></tr><tr><td colspan="2">Total (Cr)</td><td>381.02</td></tr></table> <p>Operational Expenditure:</p> <table><tr><td>1. Environment Monitoring and STP Operation</td><td>0.49 Cr</td></tr><tr><td>2. Horticulture</td><td>1.50 Cr</td></tr><tr><td>3. ETP Operation</td><td>0.02 Cr</td></tr><tr><td>4. ESP Maintenance</td><td>0.75 Cr</td></tr></table>	S.No	Description	Amount (Rs)	1	Dust Extraction System	46517	2	Continuous Effluent Monitoring System	1199999	3	Ash recovery water System	50489462	4	Ash Handling Plant	1682886259	5	Ash Disposal System	270068438	6	CAAQMS	17610984	7	Chemical & Environmental Lab -UI	1554259	8	Chimney	477148378	9	Gas emission Monitoring Instrument	17388191	10	Sewerage Treatment Plant	241798095	11	Effluent Treatment Plant	155369441	12	Electrostatic Precipitators	889597026	13	Online Coal Ash Analyser	3200000	14	Instrument for Online Remote Calibration of CEMS	1800000	Total (Cr)		381.02	1. Environment Monitoring and STP Operation	0.49 Cr	2. Horticulture	1.50 Cr	3. ETP Operation	0.02 Cr	4. ESP Maintenance	0.75 Cr
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(xxiii)	Full cooperation should be extended to the Scientists/Officers from the Ministry/Regional Office of the Ministry at Lucknow / the CPCB / the SPCB who would be monitoring the compliance of environmental status.	Noted & adhered.																																																								
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4.	The Ministry reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the Ministry.	Noted.																																																								



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5.	The environmental clearance accorded shall be valid for a period of 5 years for starting construction/operation of the power plant. In case, the project authorities fail to do so within this stipulated period, the environmental clearance shall stand lapsed automatically.	The Stage I of the plant is already in operation phase since 30/6/2010. Commercial Operation Date (COD) of Unit#1 is 12.03.2010 and COD of Unit#2 is 30.06.2010
6.	In case of any deviation or alteration in the proposed project from that submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of the condition(s) imposed and to incorporate additional environmental protection measures required, if any.	Noted
7.	The above stipulations shall be enforced among others under the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Wastes (Management and Handling) Rules, 1989, the Public Liability Insurance Act, 1991, the Environment Impact assessment Notification, 1994 and the amendments made therein from time to time.	Noted & adhered.
Environment (Protection) Amendment Rules, 2014 – Notification No. G.S.R. O2 (EI dated 24 Jan.2014, regarding supply and use of coal with ash content not exceeding 34% to coal based Thermal Power Plants - compliance reg.		
i	The Thermal Power Plants attracting the said Notification shall submit its Compliance to the Ministry Regional Office and SPCB concerned along with the compliance reports of the environmental safeguards stipulated in the ECs and Consents.	Coal used by RPSCL has ash content less than 34%. Report is being sent to regulatory bodies on quarterly basis as per guideline. Refer Annex_III.
S.O. 3305(E). — In exercise of the powers conferred by sections 6 and 25 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government hereby makes the following rules further to amend the Environment (Protection) Rules, 1986, namely:— 1. (1) These rules may be called the Environment (Protection) Amendment Rules, 2015 dated 7th December, 2015.		
i	All existing CT-based plants reduce specific water consumption upto maximum of 3.5m ³ /MWh within a period of two years from the date of Publication of this notification.	Complied. Specific water consumption is below 3.5m ³ /MWh
ii	TPPs (units) installed after 1st January,2003, upto 31st December, 2016*	Noted. a) Emission Norms for Particulate Matter is



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	<p>a) Particulate Matter: 50 mg/Nm³</p> <p>b) Sulphur Dioxide (SO₂) : 600 mg/Nm³ (Units Smaller than 500MW capacity units)</p> <p>c) Oxides of Nitrogen (NO_x): 300 mg/Nm³</p> <p>d) Mercury (Hg :) 0.03 mg/Nm³</p>	<p>100 mg/Nm³ as per Environmental Clearance Condition and there was no norms for SO_x, NO_x and Hg. MoEF&CC published its Notification in 2015 for New Emission norms for Particulate Matter, SO_x, NO_x and for Hg and the Compliance completion date was before Jan-18. CPCB/CEA give relaxation to this Compliance condition to comply this Norms upto Dec-2021 for RPSCL.</p> <p>b) RPSCL has made DPR for implementation of New Emission Norms as per guidelines of CEA and Submitted to CEA authority for cost approval.</p> <p>c) Vendor finalization for ESP up gradation, wet FGD installation and NO_x control is completed, LOI issued and award of work is in progress.</p> <p>d) Hg emission is well below stipulated norms. Hence, there is no requirement for Hg control technology up gradation. Achieving the prescribed Norms. Refer Annex-2, Stack Emission Monitoring Report.</p>
CPCB_ Notice for Remote Calibration vide File No. 12011/33/2018/IT-RCAL, Dated – 25 th June,2018:		
1	<p>Directions for installation of Online Continuous Emission Monitoring System (OCEMS) and submission of its data to CPCB online were issued to 17 categories of highly polluting industries and grossly polluting industries by CPCB in the year 2015. Further</p> <p>i) Time extension, to install remote calibration facility for OCEMS performance check by CPCB and SPCBs/PCCs, is given till 20.09.2018. All industries shall also submit remote calibration facility details such as make, model and device ID in the section 12 "Instrument Details" of Form E2 of Compliance Reporting Protocol.</p>	<p>Updation of System for Remote Calibration of CEMS System as per Guideline of CPCB Completed. Online Data are transferred to CPCB server through M/s Forbes Marshall.</p>

