

TALWANDI SABO POWER LIMITED, BANAWALA

Compliance status of the conditions stipulated in Environmental Clearance of 1980 MW (3X660 MW) Talwandi Sabo Power Limited and additional conditions stipulated in Office Memorandum No. J-11013/41/2006-IA. II (I) dt. 06/04/2011 for the period of October, 2018 to March, 2019.

3	Conditions	Compliance Status
(i)	The total land requirement for the project shall be restricted to 2105 acres	Noted.
(ii)	Requisite quantity of coal for the ultimate capacity shall be obtained before commissioning the project	Noted.
(iii)	Sulphur and ash contents in the coal to be used in the project shall not exceed 0.5% and 34% respectively	Complied.
(iv)	(As amended vide MoEF letter No. J-13011/24/2008-IA. II (T) dt. 17/06/2010) A Tri-flu stack of 275 m height shall be provided with continuous online monitoring equipments for SO _x , NO _x and particulate. Exit velocity of the flue gases shall not be less than 25m/sec	Complied. Exit velocity of flue gases has taken care in design and condition noted.
(v)	High efficiency Electrostatic Precipitator (ESP) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm ³	Complied. Stack emission monitoring test reports for the period of October-2018 to March-2019 are enclosed as <u>Annexure-1 (a) to Annexure-1 (f).</u>
(vi)	Space provision shall be kept for retrofitting of FGD, If required at a later date	Complied.
(vii)	Adequate dust extraction system such as cyclone/bag filters and water spray system in dusty areas such as coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided	Complied.
(viii)	Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Fly ash shall be used in a phased manner as per provision of the notification on Fly Ash Utilization issued by Ministry in September 1999 and its amendment. By the end of 9 th year full fly ash utilization should be ensured. Unutilized fly ash shall be disposed off in the ash pond in the form of High Concentration slurry and the bottom ash in conventional slurry mode.	Complied. Fly ash is being used in phased manner as stipulated. Fly ash report is being submitted to CPCB, PPCB and MoEF&CC, Regional Office, Chandigarh regularly.
(ix)	Ash pond shall be lined with HDPE lining. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached	Complied.

TALWANDI SABO POWER LIMITED, BANAWALA

(x)	Closed cycle cooling system with cooling towers shall be provided. COC of at least 5 shall be adopted and the effluents shall be treated as per the prescribed norms	Complied. Cooling tower blow down is being treated in ETP as per the prescribed norms and the treated water is being recycled for cooling tower make-up.
(xi)	The treated effluent confirming to the prescribed standards shall be re-circulated and reused within the plant. There shall be no discharge outside the plant boundary except during monsoon. Arrangement shall be made that effluents and storm water do not get mixed.	Complied.
(xii)	A sewage treatment plant shall be provided and the treated sewage shall be used for raising greenbelt/plantation	Complied.
(xiii)	Rain water harvesting should be adopted. Central Ground Water Authority/Board shall be consulted for finalization of appropriate rain water harvesting technology within a period of three months from the date of clearance and details shall be furnished.	Complied.
(xiv)	Adequate safety measures shall be provided in the plant area to check/minimize spontaneous fire in coal yard especially during summer season. Copy of these measures with full details along with location plant lay out shall be submitted to the ministry as well to the regional office of the ministry at Chandigarh.	Complied. Details already submitted vide letter no.TSPL/MoEF/139 dated 18/7/2013 to MoEF&CC and its regional office, Chandigarh.
(xv)	Storage facilities for liquid fuel such as LDO and HFO/LSHS shall be made in the plant area where risk in minimum to the storage facilities. Disaster Management Plan shall be prepared to meet any eventuality in case of an accident taking place. Mock drills shall be conducted regularly and based on the same, modifications required, if any shall be incorporated in DMP.	Complied. Last Mock drill was done at Fuel Oil Storage area on 26/12/2018.
(xvi)	Regular monitoring of ground water in and around ash pond area shall be carried out, records maintained and six monthly reports shall be furnished to the Regional office of this Ministry	Complied. Reports of ground water monitoring carried out in and around ash pond area are enclosed as <u>Annexure-2 (a) to Annexure-2 (e).</u>
(xvii)	A green belt of adequate width and density shall be developed around the plant periphery covering about 1/3 of the project area preferably with local species	Complied.

TALWANDI SABO POWER LIMITED, BANAWALA

(xviii)	Activities under CSR shall be enhanced with proper financial allocation. Details of these activities shall be submitted to the Regional office of the Ministry, SPCB and the Ministry	Complied. CSR activities implemented for the period of October-2018 to March-2019 is enclosed as Annexure-3 .
(xix)	First aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase	Complied.
(xx)	Leq of Noise levels emanating from turbines shall be limited to 75 dBA. For people working in the high noise area, requisite personal protective equipment like earplug/ ear muff etc shall be provided. Workers engaged in noisy areas such as turbine area, air compressors etc shall be periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non noisy/less noisy areas.	Turbines have been provided with acoustic enclosure and installed inside enclosed building. Complied. Complied. Audiometric test is being conducted to workers engaged in noisy areas on six monthly basis and record is being maintained.
(xxi)	Regular monitoring of ground level concentration of SO ₂ , NO _x , SPM, RSPM shall be carried out in the impact zone and record maintained. If at any stage these levels are found to exceed the prescribed limits, necessary control measures shall be provided immediately. The location of the monitoring station and frequency of monitoring shall be decided in consultation with SPCB. Periodic reports shall be submitted to the regional office of this ministry.	Complied. Complied. Ambient Air Quality monitoring reports for the period of October-2018 to March-2019 are enclosed as Annexure-4 (a) to Annexure-4 (f) .
(xxi)	The project proponent shall advertise in at least two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locally concerned within seven days from the date of this clearance letter, informing that the project has been accorded environment clearance and copies of clearance letter are available with 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.
(xxii)	A separate environment management cell with qualified staff shall be set up for	Complied.

TALWANDI SABO POWER LIMITED, BANAWALA

	implementation of the stipulated environmental safeguards.	
(xxiii)	Half yearly report on the status of implementation of the stipulated condition and environmental safeguards shall be submitted to this Ministry/Regional Office/CPCB/SPCB	Complied and continue to comply the same in future also
(xxiv)	Regional office of the Ministry of Environment & Forest located at Chandigarh will monitor the implementation of the stipulated conditions. A complete set of documents including Environment Impact Assessment report and Environment Management Plan along with the additional information submitted from time to time shall be forwarded to the Regional Office for their use during monitoring	Complied. Copies of EIA and DPR submitted vide letter no.TSPL/MOEF/111 dated 16/6/2009.
(xxv)	Separate funds shall be allocated for implementation of environment protection measures along with item-wise break up. These cost shall be included as part of the project cost. The fund earmarked for the environment protection measures shall not be diverted for other purposes and year-wise expenditure should be reported to the Ministry.	Complied. Details of actual project expenditure with item-wise break up has already submitted vide letter no. TSPL/ENV/02/MoEF&CC/155 dated 24/5/2018. Year-wise expenditure incurred on Environmental protection measures during operational phase has been submitted regularly. Expenditure incurred on Environmental protection measures during operational phase for the FY.2018-19 is enclosed as Annexure-5 .
(xxvi)	The project authorities shall inform the Regional Office as well as the Ministry regarding the date of financial closure and final approval of the project by the concerned authorities and date of land development work and commissioning of plant	Complied.
(xxvii)	Full cooperation shall be extended to the Scientist / Officers from the Ministry/Regional Office of the Ministry at Chandigarh/ the CPCB/the SPCB who would be monitoring the compliance of environmental status.	Noted.

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TALWANDI SABO POWER LIMITED, BANAWALA

Additional Conditions vide Office Order No J-13011/24/2008-IA.II(T) dated 25/03/2010		Compliance Status
(xxviii)	The project proponent shall upload the status of compliance of the conditions stipulated in environment clearance issued vide this Ministry's letter of even no dated 11.07.2008, in its website and updated periodically and also simultaneously send the same by e-mail to the Regional Office of the Ministry of Environment and Forests	Complied and continue to comply the same in future also
(xxix)	Criteria pollutants levels including NOx, RSPM (PM ₁₀ & PM _{2.5}), Sox (from Stack & ambient air) shall be regularly monitored and results displayed in your website and also at the main gate of the power plant	Complied and continue to comply the same in future also
Additional Conditions vide letter No J-13011/24/2008-IA.II(T) dated 30/09/2013		Compliance Status
(xxx)	Scheme for harnessing solar power within the premises of the plant (particularly at available roof tops) shall be critically examined and status of implementation shall be submitted.	Complied. Status of implementation has already submitted vide letter no. TSPL/ENV/02/MoEF&CC/151 dated 28/11/2017.
(xxxii)	Waste Water generated from the plant shall be treated before discharge to comply limits prescribed by the SPCB/CPCB and no effluent, under any circumstances whatsoever, should be discharged into low lying area or into estuary.	Complied.
(xxxiii)	A long term study on radio activity and heavy metals contents on coal to be used shall be carried out through a reputed institute. Thereafter mechanism for an in-built continuous monitoring for radio activity and heavy metals in coal and fly ash (including bottom ash) shall be put in place.	Complied. Reputed institute i.e. Central Institute of Mining and Fuel Research (CIMFR) has been engaged for long term study of radioactivity and heavy metals in coal & fly ash.
(xxxiii)	It shall be ensured that in-built monitoring mechanism for the CSR schemes identified is in place and annual social audit shall be got done from the nearest government institute of repute in the region. The project proponent shall also submit the status of implementation of the scheme from time to time.	Complied. In built monitoring mechanism for CSR schemes already in place. Social Audit for implemented CSR schemes in the FY.2018-19 is to be carried out.

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TALWANDI SABO POWER LIMITED, BANAWALA

(xxxiv)	The project proponent shall formulate a well laid Corporate Environment Policy and identity and designate responsible officers at all levels of its hierarchy for ensuring adherence to the policy and compliance with conditions stipulated in this clearance letter and other applicable environmental laws and regulations.	Complied.
4	The Ministry of Environment and Forest reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the Ministry, MOEF may impose additional environmental conditions or modify the existing ones, if necessary.	Noted
5	The environmental clearance accorded shall be valid for a period of 5 years to start of production operations by the power plant.	Noted. All units i.e. 3x660 MW are operational.
6	In case any deviation or alteration in the project proposed from those submitted to this Ministry for clearance a fresh reference should be made to the Ministry to assess the adequacy of the condition(s) imposed and to add additional environmental protection measures required if any	Noted
7	The above stipulations would 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 and rules there under, Hazardous Wastes (Management and Handling) Rules 1989 and its amendments, The Public Liability Insurance Act,1991 and its amendments	Noted
8	Any appeal against this environmental clearance shall lie with the National Environment Appellate Authority, if preferred, within 30 days as prescribed under Section 11 of the National Environment Appellate Act,1997	Noted
Additional Conditions (as per MoEF Office Memorandum No.J.11013/41/2006-IA.II (I) dated 06/04/2011)		Compliance Status
(i)	Continuous monitoring of stack emissions as well as ambient air quality (as per notified standards) shall be carried out and continuous records maintained. Based on the monitored data, necessary corrective	Continuous Ambient Air Quality Monitoring (CAAQM) Stations and Continuous Emission Monitoring System (CEMS) provided for monitoring of ambient air quality and

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TALWANDI SABO POWER LIMITED, BANAWALA

	measures as may be required from time to time shall be taken to ensure that the levels are within permissible limits. The results of monitoring shall also be submitted to the respective Regional Office of MoEF regularly. Besides, the results of monitoring will also be put on the website of the company in the public domain.	stack emissions and records are being maintained accordingly.
(ii)	The six monthly monitoring report as well as the monitored data on various parameters as stipulated in the environment clearance conditions shall be put on the website of the company and also regularly updated. The monitored data shall also be submitted to respective State Pollution Control Board/UTPCCs and the Regional Office of MoEF.	Complied and continue to comply the same in future also.
(iii)	The ambient air quality data as well as the stack emission data will also be displayed in public domain at some prominent place near the main gate of the company and updated in real time.	Complied and continue to comply the same in future also.
MoEF&CC Office Memorandum No.L-11011/17/2014-IA.I (T) dated 25/09/2014)		Compliance Status
(i)	The Thermal Power Plants attracting the said Notification shall submit its compliance to the Ministry's Regional Office and SPCB concerned along with the compliance reports of the environmental safeguards stipulated in the ECs and Consents	Complied and continue to comply the same in future also.

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TEST CERTIFICATE

Annexure - 1(a)

Page 1 of 1

TEST REPORT

To
M/S Talwandi Sabo Power Ltd,
Mansa-Talwandi Sabo Road, Village Banawala,
Distt. Mansa, Bathinda Punjab, (India)

Report No.	ETL/25D/2018-19/PP/18157	Report Date	30.10.2018
Your Ref. No	Nil	Type of sample	Stack Emission
Sample Code given by Customer	Nil	Date of sampling	23.10.2018
		Date of Sample Receipt	24.10.2018
Location	Stack attached to boiler No.1	Sample I.D.	ETL/5D/2018-19/PP/157
Sample Collected by	Lab Person	Date of test	24.10.2018-30.10.2018
Sampling procedure	As per SOP		

TECHNICAL DATA

1	Source of Emission	Third Unit (Unit-1)
2	Fuel used in source	Coal
3	Sampling Duration	40 min
4	Ambient air temperature	35°C
5	Stack temperature	124°C
6	Stack height from ground level	275mtr (GL)
7	Diameter of stack	7.2m
8	Instrument Used for Sampling	VSS1

S.NO	PARAMETER	RESULT (mg/Nm ³)	Limits (mg/Nm ³)	TEST METHOD
1.	Particulate Matter	48.5	50	IS:11255(Pt -1):1985 reaffirmed 2003
2.	Sulphur Dioxide (SO ₂)	1392	...	IS:11255(Pt -2):1985 reaffirmed 2003
3.	Oxide of Nitrogen(NO _x)	386	...	IS:11255(Pt -7):2005
4.	Mercury(Hg)	BDL(MDL 0.001)	...	EPA:M-29/102

Note:

1. The test report refers only to tested sample and applicable parameters.
2. This report can neither be used as evidence in the court of law nor can it be used in part or full in any media without prior permission.
3. The sample will be destroyed after Thirty days from the date of issue of test report unless otherwise specified.

** End of Report **





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TEST REPORT

To
M/S Talwandi Sabo Power Ltd,
Mansa-Talwandi Sabo Road, Village Banawala,
Distt. Mansa, Bathinda Punjab, (India)

Report No.	ETL/25D/2018-19/PP/18158	Report Date	30.10.2018
Your Ref. No	Nil	Type of sample	Stack Emission
Sample Code given by Customer	Nil	Date of sampling	23.10.2018
		Date of Sample Receipt	24.10.2018
Location	Stack attached to boiler No.2	Sample I.D.	ETL/5D/2018-19/PP/158
Sample Collected by	Lab Person	Date of test	24.10.2018-30.10.2018
Sampling procedure	As per SOP		

TECHNICAL DATA

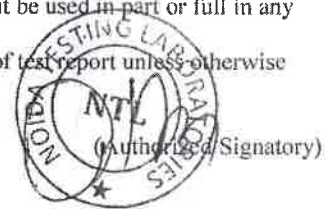
1	Source of Emission	First Unit (Unit-2)
2	Fuel used in source	Coal
3	Sampling Duration	40 min
4	Ambient air temperature	35°C
5	Stack temperature	131°C
6	Stack height from ground level	275mtr (GL)
7	Diameter of stack	7.2m
8	Instrument Used for Sampling	VSSI

S. NO	PARAMETER	RESULT (mg/Nm ³)	Limits (mg/Nm ³)	TEST METHOD
1.	Particulate Matter	45.6	50	IS:11255(Pt -1):1985 reaffirmed 2003
2.	Sulphur Dioxide (SO ₂)	1446	...	IS:11255(Pt -2):1985 reaffirmed 2003
3.	Oxide of Nitrogen(NO _x)	460	...	IS:11255(Pt -7):2005
4.	Mercury(Hg)	BDL(MDL 0.001)	...	EPA:M-29/102

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** End of Report **





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Annexure - I (a)

Page 1 of 1

TEST REPORT

To
M/S Talwandi Sabo Power Ltd,
Mansa-Talwandi Sabo Road, Village Banawala,
Distt. Mansa, Bathinda Punjab, (India)

Report No.	ETL/25D/2018-19/PP/18159	Report Date	30.10.2018
Your Ref. No	Nil	Type of sample	Stack Emission
Sample Code given by Customer	Nil	Date of sampling	23.10.2018
		Date of Sample Receipt	24.10.2018
Location	Stack attached to boiler No.3	Sample I.D.	ETL/5D/2018-19/PP/159
Sample Collected by	Lab Person	Date of test	24.10.2018-30.10.2018
Sampling procedure	As per SOP		

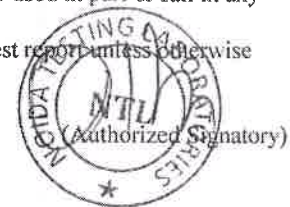
TECHNICAL DATA

1	Source of Emission	Second Unit (Unit-3)		
2	Fuel used in source	Coal		
3	Sampling Duration	38 min		
4	Ambient air temperature	35°C		
5	Stack temperature	135°C		
6	Stack height from ground level	275mtr (GL)		
7	Diameter of stack	7.2m		
8	Instrument Used for Sampling	VSSI		
S. NO	PARAMETER	RESULT (mg/Nm ³)	Limits (mg/Nm ³)	TEST METHOD
1.	Particulate Matter	47.4	50	IS:11255(Pt -1):1985 reaffirmed 2003
2.	Sulphur Dioxide (SO ₂)	1546	...	IS:11255(Pt -2):1985 reaffirmed 2003
3.	Oxide of Nitrogen(NO _x)	424	...	IS:11255(Pt -7):2005
4.	Mercury(Hg)	BDL(MDL 0.001)	...	EPA:M-29/102

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** End of Report **





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Annexure - 1 (b)

Page 1 of 1

TEST REPORT

To
M/S Talwandi Sabo Power Ltd,
Mansa-Talwandi Sabo Road, Village Banawala,
Distt. Mansa, Bathinda Punjab, (India)

Report No.	ETL/25D/2018-19/PP/18181	Report Date	04.12.2018
Your Ref. No	Nil	Type of sample	Stack Emission
Sample Code given by Customer	Nil	Date of sampling	28.11.2018
		Date of Sample Receipt	29.11.2018
Location	Stack attached to boiler No.1	Sample I.D.	ETL/5D/2018-19/PP/181
Sample Collected by	Lab Person	Date of test	29.11.2018-04.12.2018
Sampling procedure	As per SOP		

TECHNICAL DATA

1	Source of Emission	Third Unit (Unit-1)		
2	Fuel used in source	Coal		
3	Sampling Duration	40 min		
4	Ambient air temperature	30 ^o C		
5	Stack temperature	130 ^o C		
6	Stack height from ground level	275mtr (GL)		
7	Diameter of stack	7.2m		
8	Instrument Used for Sampling	VSSI		
S.NO	PARAMETER	RESULT (mg/Nm ³)	Limits (mg/Nm ³)	TEST METHOD
1.	Particulate Matter	45.2	50	IS:11255(Pt -1):1985 reaffirmed 2003
2.	Sulphur Dioxide (SO ₂)	1635	...	IS:11255(Pt -2):1985 reaffirmed 2003
3.	Oxide of Nitrogen (NO _x)	336	...	IS:11255(Pt -7):2005
4.	Mercury (Hg)	BDL (MDL 0.001)	...	EPA:M-29/102

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** End of Report **

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