एनटीपीसी
NTPC

एन टी पी सी लिमिटेड
(भारत सरकार का उद्यम)
NTPC Limited
(A Govt of India Enterprise)
(Formerly National Thermal Power Corporation Ltd

रिहंद / Rihand

संदर्भ संख्या /**Ref No:** 070/EMG/2019 दिनांक / **Date:** 30.05.2019

To,

Head of Department,
Ministry of Environment, Forest & Climate Change, Govt. of India,
Regional Office (Central Region),
Kendriya Bhawan, 5th Floor, Sector-H, Aliganj,
LUCKNOW – 226 024.

Project Code: UP-37-302-2009
Environment Clearance letter No: J-13011/57/2008-IA-II (T) dated. 05.02.09

Sub:- **Status Report Regarding Compliance of Conditions Stipulated in Environmental Clearance of Rihand STPP, Stage-III (2x500MW)**

Dear Sir,

This has reference to MoEF environment clearance reference no: J-13011/57/2008-IA-II(T) dt. 05.02.09. Please find herewith the status of compliance report of conditions stipulated in respect of Environmental Clearance for NTPC-Rihand STPP, Stage III, for the period from **October'18 to March'19.**

This is for your kind information please.

Thanking You,

Yours sincerely

(V.K. Atteri)
AGM(EMG)

रिहन्द सुपर थर्मल पावर प्रोजेक्ट, पो.आ.–रिहन्दनगर, जिला–सोनभद्र (उ.प्र.) पिन : 231 223 टेली / Tel : 05446-242021
Rihand Super Thermal Power Project P.O.: Rihand Nagar, Distt.: Sonebhadra (U.P.) 231 223 Fax:05446-242115
पंजिकृत कार्यालय: एनटीपीसी भवन, स्कोप काम्पलेक्स,7इन्स्टीट्यूशनल एरिया, लोधी रोड, नई दिल्ली–110003
Regd. Office : NTPC Bhawan, Scope Complex,.7 Institutional Area, Lodhi Road, New Delhi-110 003

Status report regarding compliance of conditions stipulated in environmental clearance of Rihand Stage-III (2x500 MW)

Name of Project: Rihand Super thermal Power project stage III (2X500MW)
Project Code: UP-37-302-2009
Environment Clearance letter No: J-13011/57/2008-IA-II (T) dated. 05.02.09
Time Period: From: **October'18 to March'19**

S. No.	Stipulation	Status of Compliance (As on 31.03.2019)
2.	It is noted that the proposal is for grant of environmental clearance for setting up of a 2x500 MW thermal power project as an expansion stage-III within the existing complex. The land requirement for the project is 730 acres, which includes 430 acres for ash disposal, 150 acres for main plant and 150 acres for railway siding and pipeline corridor. Water requirement will be met from the discharge channel of Rihand STPP Stage-I. No additional water will be drawn from Rihand Reservoir. Public hearing was held on 20.6.2008. No National Park and Wildlife Sanctuary is located within 25 Km from project area. Total cost of the project is Rs 4572.96 crores, which includes Rs. 486.50 crores for environmental protection measures.	Noted. Water requirement is being from the discharge channel of Rihand Stage -I
3.	The proposal has been considered and Ministry of Environment & Forests hereby accords environmental clearance to the said project under the provisions of Environment Impact Assessment Notification, 2006 subject to implementation of the following terms and conditions:-	Noted
(i)	No additional land shall be used/acquired in excess of 730 acres for any activity/ facility of this project.	No additional land has been used / acquired.
(ii)	Ash pond shall be at least 500 m away from FRL of Govind Ballabh Pant Sagar (Rihand Reservoir)	Shall be ensured
(iii)	Sulphur and ash contents in the coal to be used in unit-I shall not exceed 0.3% and 41%, while for unit-II, 0.38% and 37% respectively at any given time.	Sulphur content in coal was less than 0.3% during Oct'18-March'19. Weighted average ash content during Oct'18 – March'19: 26.86%.
(iv)	A bi-flue stack of 275 m height shall be provided with continuous online monitoring equipments for SOx, NOx, Hg and Particulate. Exit velocity of flue gases shall not be less than 22 m/sec.	A bi-flue stack of 275m height has been constructed. Continuous online monitoring equipments are in service. Average exit velocity in flue gases was approx. 24 m/sec during Oct'18-March'19.
(v)	High efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm^3.	ESPs having efficiency of more than 99.96% have been installed and commissioned to ensure that particulate emission does not exceed 50 mg/Nm^3. Average PM concentration during Oct'18-March'19 is 45 mg/Nm3 approx.
(vi)	Space provision shall be kept for retrofitting of FGD, if required at a later date.	Provision for FGD is made in General layout Plan. In order to meet the new norms of SO2 and NOx emission from the Stack the work of installation of FGD is in progress and shall be completed within the given timeline.
(vii)	Adequate dust extraction system such as cyclones/ bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided.	Dust extraction/ suppression systems have been commissioned for vulnerable dusty areas.
(viii)	Fly ash shall be collected in dry form and storage	Dry Fly Ash Extraction, Transport, Storage

	facility (silos) shall be provided. The project authorities should adhere to the provision stipulated in the fly ash notification of September, 1999 and as amended in August, 2003 in regard to fly ash utilization. Unutilized fly ash and bottom ash shall be disposed off in the ash pond.	and Supply system has been envisaged for Stage-III. Erection of 04 nos. of silo of capacity 1000 MT each with rail loading facility is in progress. NTPC Rihand is making best possible efforts for maximum utilization of fly ash and only unused fly ash shall is being disposed off in the ash pond. Ash generated at NTPC Rihand is utilized in the following areas: a) Waste Land development b) Filling of low lying areas of plant c) Issue to cement industries d) Manufacturing of bricks e) Raising of ash dykes Total : 833237 MT ash utilized during (Oct. ' 2018 to March' 2019)
(ix)	Closed cycle cooling system with cooling towers shall be provided. COC of at least 4 shall be adopted and the effluents shall be treated as per the prescribed norms.	Closed cycle cooling system with cooling towers has been provided in Stage III. Effluent treatment plant has also been installed in Stage – III and treated effluent is recycled and used in the power generation process. COC of 04 shall be maintained.
(x)	The treated effluents conforming to the prescribed standards shall be re-circulated and reused within the plant. Arrangements shall be made that effluents and storm water do not get mixed.	The treated effluent is being re-circulated and reused within plant. Arrangement has been made that effluent and storm water do not get mixed.
(xi)	A sewage treatment plant shall be provided and the treated sewage shall be used for raising greenbelt/plantation.	Sewage treatment plant based on MBBR technology of capacity 03 MLD and 0.5 MLD has been installed in township and plant respectively and they are in regular operation. Treated sewage water is being used in greenbelt/plantation.
(xii)	Rainwater harvesting should be adopted. Central Groundwater Authority/ Board shall be consulted for finalization of appropriate rainwater harvesting technology within a period of three months from the date of clearance and details shall be furnished.	Scheme for Rainwater harvesting is envisaged in all the new buildings for Stage-III. However there is no need of rain water harvesting in flood prone area. The Rihand STPP is located in the bank of Rihand Reservoir. It is further submitted that 08 groundwater recharging structures of recharging capacity of approx.. 1.6 Lac cubic meter / annum.
(xiii)	Adequate safety measures shall be provided in the plant area to check/ minimize spontaneous fires in coal yard, especially during summer season. Details of these measures along with location plant layout shall be submitted to the Ministry as well as to the Regional Office of the Ministry at Lucknow.	Fire Fighting System and safety measures, i.e. sprinkler system, fire hydrant etc provided in stage- III package. Details are already submitted.
(xiv)	Storage facilities for auxiliary liquid fuel such as LDO and/ HFO/LSHS shall be made in the plant area where risk is 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 the DMP. Sulphur content in the liquid	The location is Risk free. On site & off site DMP is in the place. Storage facility of auxiliary liquid fuels like LDO/HFO has been developed in risk free area. On site and off site Disaster Management Plan has already been prepared and implemented.

	fuel shall not exceed 0.5%.	Periodical mock drills are being conducted regularly.
(xv)	Regular monitoring of ground water in and around the ash pond area including heavy metals (Arsenic, Mercury, Cr, lead etc.) shall be carried out, records maintained and six monthly reports shall be furnished to the Regional Office of this Ministry.	Shall be complied after construction of ash dyke. However monitoring of ground water quality including heavy metals is being carried out in the surrounding areas of existing ash dykes on half yearly basis. Copies of the monitoring report is enclosed as Annexure – 01.
(xvi)	A green belt of adequate width and density shall be developed around the plant periphery covering 1/3 of project area preferably with local species.	As units under Stage-III are located within the existing premises of Stage-I and II, hence no separate green belt has been envisaged for Stage-III. Mass scale plantation and green belt development has already been undertaken in Stage-I, II, III and in township. Approx. 22.4 lac trees have been planted till March'19. NTPC Rihand has also entered in MoU of 10 years with U.P. Forest Department for 40000 tree plantation every year and till March'2019 approx. 1, 20,000 trees have been planted under MoU.
(xvii)	Adequate funds shall be allocated for undertaking CSR activities.	Sufficient funds are being allocated by NTPC Rihand for CSR activities. During the year 2018 – 19 Rs. 278.60 Lacs (excluding community development expenses) has been utilized in CSR activities.
(xviii)	First aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	Construction of the plant is already completed. First aid centre is available in the plant.
(xix)	Noise levels emanating from turbines shall be so controlled such that the noise in the work zone shall be limited to 75 dBA. For people working in the high noise area, requisite personal protective equipment like earplugs/ear muffs 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.	Noted and being ensured. All the persons deployed in plant area are provided with personal protective equipment like earplugs/ear muffs etc.
(xx)	Regular monitoring of the ambient air quality in the impact zone shall be carried out and records maintained. In case the air quality levels exceed the prescribed standards, necessary corrective measures shall be taken.	03 numbers of Continuous Ambient Air Quality Monitoring Station has been installed at NTPC Rihand and these are in service since the year 2010. On line data of CAAQMS is also being sent to CPCB since 28.07.2010.
(xxi)	Regular monitoring of ground level concentration of SO_2, NOx, SPM and RSPM shall be carried out in the impact zone and records 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 stations and frequency of monitoring shall be decided in consultation with SPCB. Periodic reports shall be submitted to the Regional Office of this Ministry.	Being done. Half yearly monitoring report is enclosed as Annexure – 02.
(xxii)	A detailed plan for health monitoring in the area within the impact zone shall be prepared and implemented along with local administration. The plan should, besides others, also provide for monitoring of respiratory disorders. The plan should be submitted	Health monitoring survey was carried out by CSMMU, Lucknow. No respiratory disorders reported in conclusion of Survey report. Copy of Final Report has already been sent.

	within 3 months to this Ministry and its Regional Office at Lucknow.	During the year 2018 – 19 health check up for occupational diseases has been carried out for 542 employees and 3620 contract workers. No occupational disease has been found in them.
(xxiii)	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Now the construction activity is completed and the project is in operation.
(xxiv)	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 locality concerned within seven days from the date of this clearance letter, informing that the project has been accorded environmental clearance and copies of clearance letter 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 Advertisement issued as follows: News paper name Date of publication POINEER, 22.02.2009 LUCKNOW AMAR UJALA 23.02.2009 VARANASI
(xxv)	A separate environment management cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards.	A separate environment management cell with qualified staff already exists at site.
(xxvi)	Half yearly report on the status of implementation of the stipulated conditions and environmental safeguards shall be submitted to this Ministry/ Regional Office/CPCB/SPCB.	Being complied.
(xxvii)	A) Regional Office of the MoEF 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 along with the additional information submitted from time to time shall be forwarded to the Regional Office for their use during monitoring. B) Project proponent will upload the compliance status in their website and update the same from time to time. Criteria pollutant levels (stack and ambient levels) will be displayed at the main gate of the power plant.	A) Already forwarded. B) The Data is being displayed on Main Gate
(xxviii)	Separate funds shall be allocated for implementation of environmental protection measures along with item-wise break-up. These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year-wise expenditure should be reported to the Ministry.	Is being ensured. Expenditure of approx. Rs. 1508 lacs has been made during 2018 – 19 on environmental protection measures.
(xxix)	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 the dates of start of land development work and commissioning of plant.	The unit 5th has been commercialized on 19.11.2012& unit 6th on.27.03.2014
(xxx)	Full cooperation shall 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	The full co-operation is being extended to the Scientists/Officers from the Ministry / Regional Office of the Ministry at Lucknow /the CPCB/the SPCB who are monitoring the

	status.	compliance of environmental status.
4.	The Ministry of Environment and Forests 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 operations by the power plant.	Noted.
6.	In case of any deviation or alteration in the project proposed including coal transportation system 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.

ANNEXURE-01

सीएसआईआर-भारतीय विषविज्ञान अनुसंधान संस्थान
CSIR-INDIAN INSTITUTE OF TOXICOLOGY RESEARCH

वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद्
COUNCIL OF SCIENTIFIC & INDUSTRIAL RESEARCH

Ref. IITR/NTPC-Rh./ Feb -III/19
February 15, 2019

Phase-III Study

Analytical Results for Metallic Concentration of Ground Water Samples

Source of Sample : Ground Water Samples (Well and Hand Pump)
Site : Rihand Super Thermal Power Station, NTPC, Rihandnagar
Date of Sampling : 08/02/2019 **Season and Weather :** Winter Season and Clear Day

Sl.No.	PARAMETERS	Unit	Ircon Colony (Well Water) [GWQ*-I]	Central Ash Dyke (Well Water) [GWQ-II]	Sirsoti Hand Pump [GWQ-III]	Punarwas- 1 Hand Pump [GWQ-IV]	Punarwas-2 Hand Pump [GWQ-V]	Acceptable Limit***
1	Fluoride (as F^-)	mg/l	0.81	0.33	0.92	0.95	0.92	1.0
2	Cadmium (as Cd)	mg/l	BDL*	BDL	BDL	BDL	BDL	0.003
3	Tot. chromium (as Cr)	mg/l	BDL	BDL	BDL	BDL	BDL	0.05
4	Copper (as Cu)	mg/l	0.041	0.043	0.035	0.028	0.033	0.05
5	Lead (as Pb)	mg/l	BDL	BDL	BDL	BDL	BDL	0.01
6	Iron (As Fe)	mg/l	0.097	0.241	0.133	0.076	0.081	0.3
7	Zinc (as Zn)	mg/l	0.175	1.13	0.110	0.098	0.091	5.0
8	Selenium (as Se)	mg/l	BDL	BDL	BDL	BDL	BDL	0.01
9	Arsenic (as As)	mg/l	BDL	BDL	BDL	BDL	BDL	0.01
10	Mercury (as Hg)	mg/l	BDL	BDL	BDL	BDL	BDL	0.001

GWQ*..... Ground Water Quality

Remarks: On comparing the analytical results with prescribed standards for drinking water; IS : 10500; the analysed parameters were found within their respective permissible limits.

BDL* Below Detection Limit

***BUREAU OF INDIAN STANDARDS: DRINKING WATER – SPECIFICATION (*Second Revision* of IS- 10500)
ICS No. 13.060.20

(G. C. Kisku)

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STATION :- NTPC- RIHAND

PERIOD :- 26th September,2018 to 25th March 2019

AMBIENT AIR QUALITY DATA

MONTH	Awantika					Bijpur Punervas					MGR					Shiv Mandir (PTS)				
	DATE	PM 2.5	PM 10	SOx	NOx	DATE	PM 2.5	PM 10	SOx	NOx	DATE	PM 2.5	PM 10	SOx	NOx	DATE	PM 2.5	PM 10	SOx	NOx
Oct. 18	26.09.18	33	69	12	16	28.09.18	33	79	13	20	29.09.18	33	75	8	13	27.09.18	26	53	8	19
	03.10.18	38	52	10	18	05.10.18	46	91	12	22	06.10.18	38	70	10	11	04.10.18	31	72	7	10
	10.10.18	39	77	11	15	12.10.18	38	70	11	18	13.10.18	25	58	13	8	11.10.18	32	61	15	12
	17.10.18	34	75	11	17	19.10.18	36	83	9	18	20.10.18	32	78	12	14	18.10.18	37	71	14	17
Nov. 18	31.10.18	55	80	16	22	26.10.18	55	83	18	25	27.10.18	59	80	16	26	01.11.18	39	72	13	20
	08.11.18	39	61	15	18	02.11.18	60	79	16	23	03.11.18	57	75	17	26	09.11.18	45	69	15	21
	14.11.18	32	69	12	18	10.11.18	40	65	17	21	07.11.18	54	77	11	27	16.11.18	31	61	16	18
	15.11.18	28	62	14	19	17.11.18	47	61	13	18	14.11.18	51	65	14	20	22.11.18	27	63	11	19
Dec. 18	28.11.18	45	76	18	24	30.11.18	48	80	16	21	01.12.18	59	80	16	26	29.11.18	55	80	20	39
	05.12.18	51	80	19	26	07.12.18	40	76	20	26	08.12.18	57	75	17	26	06.12.18	46	72	25	31
	12.12.18	49	82	17	26	14.12.18	51	81	15	25	15.12.18	54	77	11	27	13.12.18	51	73	18	26
	19.12.18	42	72	14	21	21.12.18	47	78	18	26	22.12.18	51	65	14	20	20.12.18	44	62	21	27
Jan. 19	26.12.18	45	**71**	10	22	28.12.18	44	70	14	26	29.12.18	37	54	5	9	27.12.18	50	73	9	31
	02.01.19	48	62	9	16	04.01.19	36	72	9	26	05.01.19	50	65	5	13	03.01.19	50	68	27	23
	09.01.19	39	68	11	19	11.01.19	46	91	9	26	12.01.19	56	73	12	13	10.01.19	54	74	34	20
	16.01.19	44	74	8	17	18.01.19	31	70	7	26	19.01.19	48	57	12	14	17.01.19	55	63	18	28
Feb. 19	30.01.19	48	**69**	11	20	01.02.19	22	45	9	26	26.01.19	38	32	11	17	31.01.19	39	51	13	16
	06.02.19	39	81	13	17	08.02.19	30	54	9	26	02.02.19	46	59	12	20	07.02.19	57	71	11	76
	13.02.19	44	86	10	19	15.02.19	36	35	11	25	09.02.19	37	47	12	23	14.02.19	39	59	14	19
	20.02.19	52	74	12	18	22.02.19	44	59	11	25	16.02.19	23	24	12	20	21.02.19	31	56	11	22
March 19	27.02.19	48	**76**	11	27	01.03.19	25	48	11	25	02.03.19	32	40	10	21	28.02.19	23	45	20	18
	06.03.19	37	68	13	20	08.03.19	29	58	13	21	09.03.19	30	38	10	23	07.03.19	23	48	13	17
	13.03.19	44	73	12	26	15.03.19	41	66	15	29	16.03.19	41	52	10	26	14.03.19	30	38	11	19
	20.03.19	46	77	9	22	22.03.19	34	52	13	21	23.03.19	23	30	10	36	21.03.19	30	36	21	18

ANNEXURE-02

NTPC RIHAND

STACK MONITORING REPORT (October'2018 to March'2019)

STAGE - III

Limit for PM: 50 mg/Nm3

	Unit # 5			Unit # 6		
	PM (mg/Nm3)	SO2 (mg/Nm3)	Nox mg/Nm3	PM (mg/Nm3)	SO2 (mg/Nm3)	Nox mg/Nm3
Oct'18	S/D	S/D	S/D	45	479	331
Nov'18	48	499	353	46	506	325
Dec'18	45	506	335	45	500	340
Jan'19	43	486	337	45	474	343
eb'19	45	495	340	42	520	339
Mar'19	46	533	356	46	509	337
AVG.	**45.42**	**503.97**	**344.12**	**44.67**	**497.75**	**335.63**