एनटीपीसी लिमिटेड
(भारत सरकार का उद्यम)
NTPC Limited
(A Government of India Enterprise)

SIMHADRI/EMG/012/

सिम्हाद्रि / Simhadri
Date: 07.10.2024

To,

Ministry of Environment, Forest and Climate Change
Integrated Regional Office (IRO)
Green House Complex
Gopal Reddy road,
Vijayawada – 520 010 Andhra Pradesh

Dear Sir,

Sub: Submission of Half Yearly Compliance Reports – First half of 2024-25

Ref: Consent order No. APPCB/VSP/12334/HO/CFO/2002- dated 19.10.2022 valid up to 31.08.2027.

Please find herewith enclosed "Half Yearly Compliance" of NTPC-Simhadri Super Thermal Power Station for the first half of 2024-25 for your record and reference.

01) Compliance CRZ conditions
02) Compliance of CFO conditions
03) Compliance of CFE St-I conditions
04) Compliance of CFE St-II conditions
05) Compliance of EC St-I conditions
06) Compliance of EC St-II conditions

Thanking you,

Yours faithfully,

07/10/2024

(Dr V Jayan)
AGM (EMG & AU)

Copy to:

1. The Member Secretary,
A.P. Pollution Control Board,
Door No 33-26-14 D/2, Near Sunrise Hospital,
Pushpa Hotel Centre, Chalmalavari Street, Kasturibaipet
Vijayawada – 520 010

2. A.P. Pollution Control Board,
Regional Office,
D.No.39/30/20/4/1, 3rd Floor,
VUDA Colony, Phase-I, Madhavadhara,
VISAKHAPATNAM-530 008

COMPLIANCE STATUS

OF

CONSENT FOR Operation

(4x500 MW)

NTPC Limited

SIMHADRI SUPER THERMAL POWER STATION

ENVIRONMENT MANAGEMENT GROUP

NTPC-SIMHADRI (PO)

PIN: 531 020

Andhra Pradesh

September 2024

i) Outlets for discharge of effluents:
Stage-I (unit 1&2) -1000MW

Outlet No.	Outlet Description	Max Daily Discharge (KLD)	Point of disposal	Status
1.	D.M. Plant Regeneration effluent	3,400	Reused for Ash Slurry preparation	Complied; well within limits. Reused for Ash slurry preparation
2.	Boiler Blow Down and once through Cooling Water aftertreatment	1,03,900	Into Sea	Complied. Discharged through a marine outfall designed by NIO Goa
3.	Ash Pond Effluent	9,600	Reused for Ash Pumping	Complied. Reused for Ash pumping.
4.	Domestic	1,790	After treatment in STP,onland for Plantation / Gardening.	Complied.
	Total	1,18,690		

Stage-II (unit 3&4) -1000MW

Existing Outlet No.	Outlet Description	Max Daily Discharge (KLD)	Point of disposal	Status
1.	Filter Back wash	240	Recycled to clarifier inlet	Recycled to clarifier inlet
	CHP effluent	4,800	Sedimentation, Treatment & Recycle	Sedimentation, Treatment & Recycle

2.	DM Plant Regeneration Waste	240	Neutralization and disposal through Central Monitoring Basin (CMB) and excess treated effluents to Sea.	In line with St- I DM regeneration system, St- II regeneration waste also is reused for Ash slurry preparation.
	Cooling Tower blow down	1,06,320	Partial use and disposal through CMB andexcess treated effluents to Sea.	Complied. Discharged thro' a marine outfall designed by NIO Goa
	Boiler Blow down	1,080	Disposal through CMB and excess treated effluents to Sea.	Complied. Discharged thro' a marine outfall designed by NIO Goa
	Ash water Blow down	34,320	Disposal through CMB and excess treated effluents to Sea.	Complied.
3.	Clarifier Sludge	720	Disposed in ash pond	Complied.
4.	Domestic	2,400	After treatment in ETP, Onland for Plantation / Gardening	Complied
	Total	1,50,120 (6255 m3/hr)		

ii) Emissions from Chimney:

Chimney No.	Description of chimney	Quantity of Emissions in m^3/hr per each Unit at peak flow	Compliance status
1	Attached to 2×1675 TPH Coal Fired Boilers (stage-I:1000 MW)	2,851,560	Complied. Peak flow maintained less than 26 Lac m3/hr/Unit in St-I units.
2	Attached to 2×1675 TPH Coal Fired Boilers (stage-II:1000 MW)	2,899,800	Complied. Peak flow maintained less than 26 Lac m3/hr/Unit in St-I units.
3	Attached to 6×1500KVA D.G sets	-	DG sets kept for emergency purpose during complete blackout/grid failures. Not operated regularly

iii) Hazardous waste authorization (From-2)

Sl. No	Name ofthe waste	Stream	Quantity	Disposal Option	Status
1.	Waste /Used oil	5.1 of Schedule – I	150 KL/Annum	Shall be routed through APEMC to authorized Reprocessors / Recyclers. (As recyclable waste)	Complied.
2.	Fuller Earth / Filter Media material	5.2 of Schedule -I	5000 Kg/annum		Complied. 1.29 MT disposed as on date.
3.	SpentResin	35.2 of Schedule -I	20000 ltrs/annum	Shall be routed through M/s.APEMCL to preprocessor / cement industries for co-processing. (As utilizable waste).	Complied 32.59 MT disposed since 2022
4.	Oil Soaked CottonWaste	5.2 of Schedule -I	500 Kg/annum		Complied
5.	Insulation Wool	33.2 of Schedule – I	150 MT/annum	Shall be routed through APEMC to TSDF, Visakhapatnam. (As landfill waste)	Complied. 32.73 MT disposed during March 2024 259.84 MT disposed since Feb 2022.

SCHEDULE-A

S.No.		Comments
1	Any up-set condition in any industrial plant / activity of the industry, which result in, increased effluent / emission discharge and/ or violation of standards stipulated in this order shall be informed to this Board, under intimation to the Collector and District Magistrate and take immediate action to bring down the discharge / emission below the limits.	Complied
2	The industry should carryout analysis of waste water discharges or emissions through chimneys for the parameters mentioned in this order on quarterly basis and submit to the Board.	Complied
3	All the rules & regulations notified by Ministry of Law and Justice, Government of India regarding Public Liability Insurance Act, 1991 should be followed as applicable.	Complied
4	The industry should put up two sign boards (6x4 ft. each) at publicly visible places at the main gate indicating the products, effluent discharge standards, air emission standards, hazardous waste quantities and validity of CFO and exhibit the CFO order at a prominent place in the factory premises	Complied
5	Notwithstanding anything contained in this consent order, the Board hereby reserves the right and powers to review / revoke any and/or all the conditions imposed herein above and to make such variations as deemed fit for the purpose of the Acts by the Board.	Complied
6	The industry shall ensure that there shall not be any change in the process technology, source & composition of raw materials and scope of working without prior approval from the Board.	Complied
7	The applicant shall submit Environment statement in Form V before 30th September every year as per Rule No.14 of E(P) Rules, 1986 & amendments thereof.	Complied Last report submitted 30.09.2024

8	The applicant should make applications through Online for renewal of Consent (under Water and Air Acts) and Authorization under HWM Rules at least 120 days before the date of expiry of this order, along with prescribed fee under Water and Air Acts and detailed compliance of CFO conditions for obtaining Consent & HW Authorization of the Board.	Complied
9	The industry should immediately submit the revised application for consent to this Board in the event of any change in the raw material used, processes employed, quantity of trade effluents & quantity of emissions. Any change in the management shall be informed to the Board. The person authorized should not let out the premises /lend / sell / transfer their industrial premises without obtaining prior permission of the State Pollution Control Board.	Complied
10	Any person aggrieved by an order made by the State Board under Section 25, Section 26, Section 27 of Water Act, 1974 or Section 21 of Air Act, 1981 may within thirty days from the date on which the order is communicated to him, prefer an appeal as perAndhra Pradesh Water Rules, 1976 and Air Rules 1982, to Appellate authority constituted under Section 28 of the Water(Prevention and Control of Pollution) Act, 1974 and Section 31 of the Air(Prevention and Control of Pollution) Act, 1981.	Complied
11	The industry shall be liable to pay Environmental Compensation / Other Environmental Taxes, if any environmental damage caused to the surroundings, as fixed by the Collector & District Magistrate or any other competent authority as perthe Rules in vogue.	Complied
12	The industry may explore the possibility of tapping the solar energy for their energy requirements.	25 MW floating solar plant commissioned above raw water reservoir.
13	The industry should educate the workers and nearby public of possible accidents and remedial measures.	Complied

SCHEDULE-B

S.No.		Comments
1	The industry shall obtain Fire NOC.	Fire NoC obtained and complied
2	The industry shall rectify the water sprinklers in L-1 as fugitive emissions wereobserved	Complied
3	The industry shall maintain permanent mechanical sprinklers for suppression of dust on the haul roads in between the villages and report the compliance to RO- Visakhapatnam.	08 no.s of water tankers on daily basis for surface sprinkling is being deployed , The design is under finalization for the mechanical sprinklers on haul roads . Shall be completed within time.
4	The industry shall complete installation of Flue Gas De-sulphulrization (FGD) system to the stack attached to coal fired boilers.	As per MoEF notification dated 05.09.2022, the deadline for completion of FGD works is 31.12.2024 NTPC Simhadri FGD works are in 80 % work completion and the commissioning will be well within the deadline.
5	The industry shall ensure the PM10 concentration at Pittavanipalem(V), Parawada, Visakhapatnam is below the standards mentioned in this order.	Complied
6	The industry shall ensure to meet the ground water standards as per drinking water specification IS-10500:2012 standards	Noted & Complied
7	Green belt of adequate width and density shall be maintained along the boundary of the industry and around ash ponds with minimum area of 33% of total area and to protect surrounding Villages from fugitive dust.	Complied
8	The industry shall remove the existing 150 tons of cenosphere in the premises.	Completed and complied
9	The industry shall not operate draft cooling towers without obtaining permission for the Board.	Noted and same shall be complied.

1. The effluent discharged shall not contain constituents in excess of the tolerance limits mentioned below.

Outlet	Parameter	Limiting Standards	Status
2	**pH**	6.50-8.50	All the parameters are maintained within the limits. Regular sampling by APPCB as well as NTPC is carried out and compliance confirmed. NABT recognized third party is engaged for sample collection and reports submitted
	Temperature not more than 5° C higher than intake water		
	Total suspended solids (at 103-105°C)	100mg/l	
	Oil and grease	20mg/l	
	free chlorine	0.5mg/l	
	Phosphate as PO4	20mg/l	
	Chromium(total)	0.2mg/l	
	Copper (total)	1mg/l	
	Iron	1mg/l	
	Zinc	1mg/l	
4	pH Total suspended solids (at 103-105°C) Bio chemical oxygen demand(BOD 3 AT 27°C)	5.5-9.0 200mg/l 100mg/l	
	Total dissolved solids	2100mg/l	

Stage-I(Unit-1&2)-1000MW

S.No	Purpose	Quantity in KLD	STATUS/COMPLIANCE
1	Industrial Cooling (Makeup) - sea water	216000	Complied; Maintained less than 1.5 Lakh KLD on all days.
2	DM plant	4320	Complied
3	Domestic (including gardening/irrigation)	4080	Complied
	Total	224400	

Stage-II(Unit-3&4)-1000MW

S.No	Purpose	Quantity in KLD	STATUS/COMPLIANCE
1	Industrial Cooling (Makeup) - sea water	213240	Complied; Maintained less than 1.5 L KLD on all days
2	DM plant	13200	Complied.
3	Domestic (including gardening/irrigation)		
	Total	226440	

3.The industry shall fill the water cess returns in Form- as required under section (5) of water (prevention and control of pollution) cess act,1977 on or before the 5th of every calendar month, showing the quantity of water consumed in previous month along with water meter readings. The Industry shall Remit Water cess As per the assessment orders as and when issued By Board.	With the implementation of New Taxation Law, 2017, APPCB has stopped Cess assessments to industries / urban local bodies from 01.07.2017 onwards. **(APPCB, communication, Ref. No.Lr. No.214/PCB/ROV/Tech/2018,dated 15.03.2018)**
4. The Emissions shall not contain Constituents in excess of the prescribed limits maintained below.	Complied. The emissions from stage I and Stage II units are within the limiting standards
5.The industry Shall comply with emission limits for DG sets of capacity upto 800KW as per the Notification G.S.R.520(E),01.07.2003 Under the Environment(protection) Amendment Rules, 2003 and G.S.R448 (E) , Dated 12.07.2004 under the Environment(protection) amendment Rules, 2004. In case of DG sets capacity more than 800KW comply with Emission limits as per the Notification G.s.r.489(E), Dated 09.07.2002 at serial No.96 Under the Environment (protection) Act, 1986	The DG sets are envisaged and installed in the Power station for emergency conditions like complete blackout/grid failure when no power is available and required only for keeping vital equipment of the power house in safe condition. These are operated very rare and practically no emissions from the DG set.
6.The industry Shall comply with Ambient Air Quality Standards of PM10(Particulate Matter size less than 10µm) -100µg/m3 ; PM2.5 (Particulate Matter size less than 2.5µm) -60µg/m3; SO2 -80µg/m3; Nox -80µg/m3 outside the factory premises at the periphery of the industry	The Ambient Air quality Parameters are well within the prescribed limits.; Being monitored on real time basis and values are uploaded to PCB website. NABT recognized third party is engaged for sample collection and reports submitted
Standards for other Parameters as mentioned in the National Ambient Air Quality standers CPCB Notification No.B-29016/20/90/PCI-I dated 18.11.2009 Noise Levels: Day Time (6am to 10pm) -75dB Night time(10pm to 6am) -70 dB (A)	The noise parameters are within the stipulated standards and reports are being submitted to PCB regularly.
7. The industry shall not increase the capacity beyond the permitted Capacity Mentioned in this order without obtaining CFE & CFO of the Board	Daily Generation is maintained less than 48 MU throughout the year.
8. The industry shall submit detailed action plan within one month for fly ash utilization as per the Fly Ash Notification on MoEF to the Board to achieve 100% utilization of fly ash	Ash Utilization % is more than 100% since 2017-18 and during 2023-24 the AU is 118%; Detailed Fly ash action plan submitted to PCB

9. The industry shall maintain permanent mechanical sprinklers for suppression of dust on the roads in between the villages and report the compliance to RO-Visakhapatnam.	Complied. However, wherever required, mobile water tankers are being deployed.
10. Refurbished Environment Management Team with dedicated man power shall be maintained for continuous monitoring of plant environment to ensure compliance of CFO conditions	Separate Environment management Group is available at station and the team is manned with dedicated manpower for continuous monitoring of plant environment to ensure compliance of CFO conditions.
11. The industry shall maintain 3 CAAQM Stations connected to APPCB website and report the compliance to RO-Visakhapatnam	The CAAQM stations are connected to APPCB website.
12. The Industry shall maintain online Stack and ambient monitoring systems with connection to the Boards website	The Stack and CAAQM stations are connected to APPCB website.
13. The industry shall Maintain duly Compacted under soil cover of requisite thickness as per norms for the ash ponds to avoid dust pollution and report the compliance to RO-Visakhapatnam	Presently the dyke L4 are utilized for the disposal of ash for NHAI road projects. The L2 & L3 dyke are under water cover. L1 dyke is undergoing strengthening works.
14. The industry shall submit Isotopic study report of M/s NEERI on impacts on ground water due to ash ponds and report the compliance to RO-Visakhapatnam. Continuous monitoring of the ground water quality in all sides of the plant shall be carried out	The study was conducted by M/s NEERI and report submitted. Being Complied.
15. The Industry shall take necessary measures like ammonia dosing to maintain ESPs attached to the boilers so as to meet SPM standards all the time.	Ammonia dosing facility is available and operated as when needed.
16. The industry maintain data logging facility provided for storing online stack emission data properly, for retrieval as and when necessary. Industry shall submit monthly report to the RO-Visakhapatnam	Complied; The real time stack monitoring values are uploaded to PCB site and Third party monitoring Monthly reports are being submitted to PCB
17. The industry shall maintain water meters for recording consumption of Sea water / water from Yeleru canal and maintain proper records for daily water consumption. They shall submit monthly reports to the RO, Visakhapatnam	Water meters are provided for recording consumption of sea water and water from Yeleru canal and the records are maintained. Monthly reports are submitted regularly to RO.
18. The industry shall make proper arrangements for collection of seepage from ash pond and pumped back into the ash water	Garland canal is constructed for collection of seepage from ash pond and same is pumped back to ash water system.

system, so as to avoid ground water pollution in the surrounding area	Toe drain is constructed for routing of ash water to garland drain and then to recirculation thereafter
19. The industry shall maintain water cover in the ash pond area to prevent fly ash from getting air borne and causing air pollution in the surrounding area especially to the residents of Pittavanipalem	Water cover maintained to prevent fly ash from getting air borne.
20. Efforts shall be taken to dispose fly ash in dry form as much as possible instead of divert it to wet ash pond due to paucity of land available and due to lack of secured landfill arrangement in the ash pond. Dry ash collection systems of stage 1&2 shall be maintained properly	Dry ash extraction system provided and ash issued round the clock .
21. The industry shall monitor all ground water peizo wells and submit report to RO-Visakhapatnam every three months indicating trends.	Ground Water reports are regularly submitted to RO.
22. Garland canal shall be maintained around the fly ash pond to collect water that is expected to leach out and monitoring of such leachates shall be carried out.	Garland canal constructed and maintained. Ash water is being monitored regularly.
23. After increase in the bund level and increase in the storage capacities due to the lateral pressures the aquifer may be influenced due to the leachates. The shall maintain sufficient fresh water in the borrow pits which act to counter the lateral pressures and contain the leachates if any percolate into strata.	Presently water is available in the pits. However the pits do not belong to NTPC.
24.The industry shall act on pollution problems that arise out of the ash pond and shall take any measures to contain by taking time to time action to dispel any apprehensions by the residents of the villagers. If it is required the industry shall take up the corrective measures like introducing geo-textiles vertically in the sub-surface levels in the detected areas of leaching.	No pollution attributed by leaching has been observed.
25. The industry shall not use any fuels other than those permitted in this order without prior consent from the Board. They shall maintain log registers on type of fuels & daily consumption, ash content, sulphur content etc., and shall furnish consolidated records to RO, Visakhapatnam for every three months	Complied.
26. The Industry shall maintain the Interlocking facility between APC equipment (ESP) and fuel feeding system, so that the feeding of the fuel	Interlocking facility is provided for all the units.

will be stopped automatically, in case, the ESP fails/ trippings are occurred.	
27. The industry shall maintain separate water meters to assess the quantity of water consumed at various sections. The industry shall provide separate water meters with necessary pipeline for assessing the quantity of water used for each of the purposes mentioned below: a. Industrial cooling, boiler feed. b. Domestic purposes. c. Processing, whereby water gets polluted and pollutants are easily biodegradable. d. Processing, whereby water gets polluted and pollutants are not easily biodegradable	Separate water meters are provided for assessing water consumption of various sections.
28. The industry shall maintain the following records and the same shall be made available to the Board Officials during the inspection: a. Daily power generation details. b. Quantity of Effluents generated and disposed c. Log Books for pollution control systems. d. Daily Fly ash generated and disposed	Records are being maintained as per the directions
29. Green belt adequate width and density shall be maintained along the boundary of the industry and around the ash ponds with minimum area of 33% of total area and as per CFE Order dated 01/10/2007 to protect surrounding village fugitive dust.	The tree Plantation at the station is more than 6 lacs at an area nearly 600 acres as on today. Besides this 5.50 lakhs trees are planted under Green Visakha. Total plantation is 20.46 Lakh no.s
30. The Industry shall Comply with Directions issued by Board from time to time	Being complied.
31. The Industry Shall comply with the MoEF,GoI Notification dt.14.09.1999 and other Directions issued time to time with Regard Utilization of ash	As per Sl No 8 above.
32.The industry shall take measures Around The Ash Pond Area to avoid Entry of Animals in Order to Prevent accidents, breakage of Emergency ponds and protection of Green belt	Complied.

SCHEDULE-C
[SEE RULE 5{4}]
(CONDITIONS OF AUTHORISATION OF OCCUPIER OR OPERATOR HANDLING HAZARDOUS WASTES)
[SEE RULE 5{4}]

1. All the rules and regulations notified by the Ministry of Environment and Forests, GoI under E(P) Act 1986 in respect of management , handling , transportation and storage of hazardous waste should be followed	**Complied.**
2. The industry shall not store hazardous waste for more than 90 Days as per the Hazardous wastes (management. Handling and transboundary Movement) Rules, 2008 and amendment thereof	**Being disposed to Authorized recyclers**
3. The industry shall store Used/waste oil and used Lead acid Batteries in a secured Way in their Premises Till its Disposal	**Complied.**
4. The industry shall maintain 6 copy manifest system for Transportation of Waste Generated and a copy Shall be submitted to Board Office and concerned Regional Office	**Being disposed to Authorized recyclers through MSTC.** **Hazardous waste being disposed through APEMCL portal with online manifest**
5. The industry shall maintain proper records for Hazardous waste started in Authorization in Form-3 i.e., quantity of incinerable waste, land Disposal waste, recyclable waste etc., and file annual Return in Form-4 as per Rule 22(2) of the Hazardous Waste (management , Handling & trans-boundary Movement) Rules,2008 and Amendment thereof	**Complied.**
6. The industry Shall submit the conditions wise compliance report of the conditions stipulated In Schedule A, B & C of this Order on Half-Yearly Basis to Board office, Hyderabad and Concerned regional Office.	**Complied.**

COMPLIANCE STATUS
OF
CONSENT FOR ESTABLISHMENT (CFE)
Stage-I (2x500 MW)

NTPC Limited
SIMHADRI SUPER THERMAL POWER STATION

ENVIRONMENT MANAGEMENT GROUP
NTPC-SIMHADRI (PO)
PIN: 531 020
Andhra Pradesh

September 2024

NTPC - SIMHADRI THERMAL POWER STATION
[Stage – I (2x500 MW)]

COMPLIANCE STATUS OF CONSENT FOR ESTABLISHMENT

Sl.No.	CONDITIONS STIPULATED	Status of Implementation as on 30.09.2024
01.	Trees shall be planted and maintained in the vacant spaces of the premises, at-least in an area of 4 times the build-up area of the industry. Tree plantation shall be the first item to be taken up before starting construction. Area of plantation shall be such that if replenishes the amount of oxygen consumed by the process operations and consequent release of pollutants into atmosphere.	The tree Plantation at the station is more than 6 lacs at an area nearly 600 acres as on today. Besides these 5.50 lakhs trees are planted under Green Visakha. **40,000** Plantation under Afforestation programme of NTPC with a target of Ten Million trees in next ten years **Total Plantation: 20.46 Lakhs.**
02.	The industry shall recycle the ash pond and DM Plant effluents.	Ash pond effluents are being recycled and being used for Ash slurry makeup. Treated DM Plant effluent is being used for Ash Slurry make up
03.	The industry shall treat the cooling waste water through the marine coastal standard and domestic waste water on land for irrigation standards stipulated under Environmental (Protection) Rules, 1986 as amended upto date, notified under Environment Protection Act, 1986 by Ministry of Environment & Forests, Government of India.	a) A closed cycle cooling system using Natural Draft Cooling Tower (NDCT) has been provided for treating cooling water. There are two cooling towers each of 165 m height. The cooling tower blow down is partly re-utilized and balance is brought to Central Monitoring Basin (CMB). The effluent treatment system has been designed so that the treated waste water confirm to marine coastal standards. b) Sewage Treatment Plant :– Separate Sewage treatment plant for Township and project area are provided. The treated water is used for the horticulture purpose.
04.	The run-off water from coal yard shall be treated to on land for irrigation standards before final disposal.	Coal dust settling pond has been provided to treat run off water from coal stock yard. The clear supernatant water is being continuously monitored by EQMS (Effluent Quality Monitoring Station) system before leaving to Marine Outfall.
05.	The Industry shall discharge the cooling water into the sea through a suitable drain/submarine pipeline.	Closed cycle cooling water system has been provided for this project. Cooling tower blow down is partly re-utilized. Balance blow down is being brought to Central Monitoring Basin from where it is discharged into the sea through

		a suitable drain/submarine pipeline. The marine outfall consists of 6 port diffuser of 0.4 m diameter each, 25m apart. Vertical inclination ports directed towards the shore and away from the intake.
06.	The industry shall treat domestic effluents by adopting suitable technology such as oxidation ponds, aerated lagoons etc. and discharge the treated effluents etc. on land for irrigation by gardening.	The domestic effluents are treated in aerated tanks to conform to the standards. The capacity of the plant is 1790 m^3/day. The plant comprised of following units: a) Raw sewage pump house along with coarse screen. b) Grit chamber, parshall flume along with medium screen. c) Aeration Tank. d) Secondary clarifier along with Return sludge pump. e) Fish pond. f) Sludge drying bed. The BOD level of the treated effluent is less than 20 mg/l and TSS is 30 mg/l. The effluent is being disinfected with bleaching powder dosing. The treated sewage is used for the horticulture purpose inside the township area to the extent possible. However, the surplus sewage, if any, is discharged into the natural stream for the utilization in fields on request from farmers.
07.	The cooling water used in the once through system if treated with Biocide will effect the biota of the sea and fishing also, in the proximity of the discharge point. It should be controlled by properly designed outfall into the sea.	Closed cycle cooling system has been adopted. Biocide application is negligible when compared to open Cycle. Further Monitoring of effluents is being done continuously.
08.	The industry shall install and commission appropriate control equipment for control the stack emission to meet the following emission standards :- a) Particulate matter – 100 mg/NM3. b) The industry shall install a stack of 275 mts. Height.	• The Electro Static Precipitators (ESP) are designed for a guaranteed efficiency of 99.93%. • ESPs are designed with 64 fields to limit the particulate emission to less than 100 mg/Nm3 under worst coal firing conditions . • Bi-flue stack of 275 mt. has been provided.
09.	The industry shall install suitable control equipment facilities in the coal handling plant and dust suppression in all coal & material handling area should be achieved through appropriate measures.	Dust suppression systems have been provided in coal handling area including coal stock yard area for control of coal dust. At specified locations, chem.-jet suppression system has been provided which comprises of spray equipment with a wetting agent in a fine mist to capture air borne dust particles. Clarified water is used for chem.-jet dust suppression system.

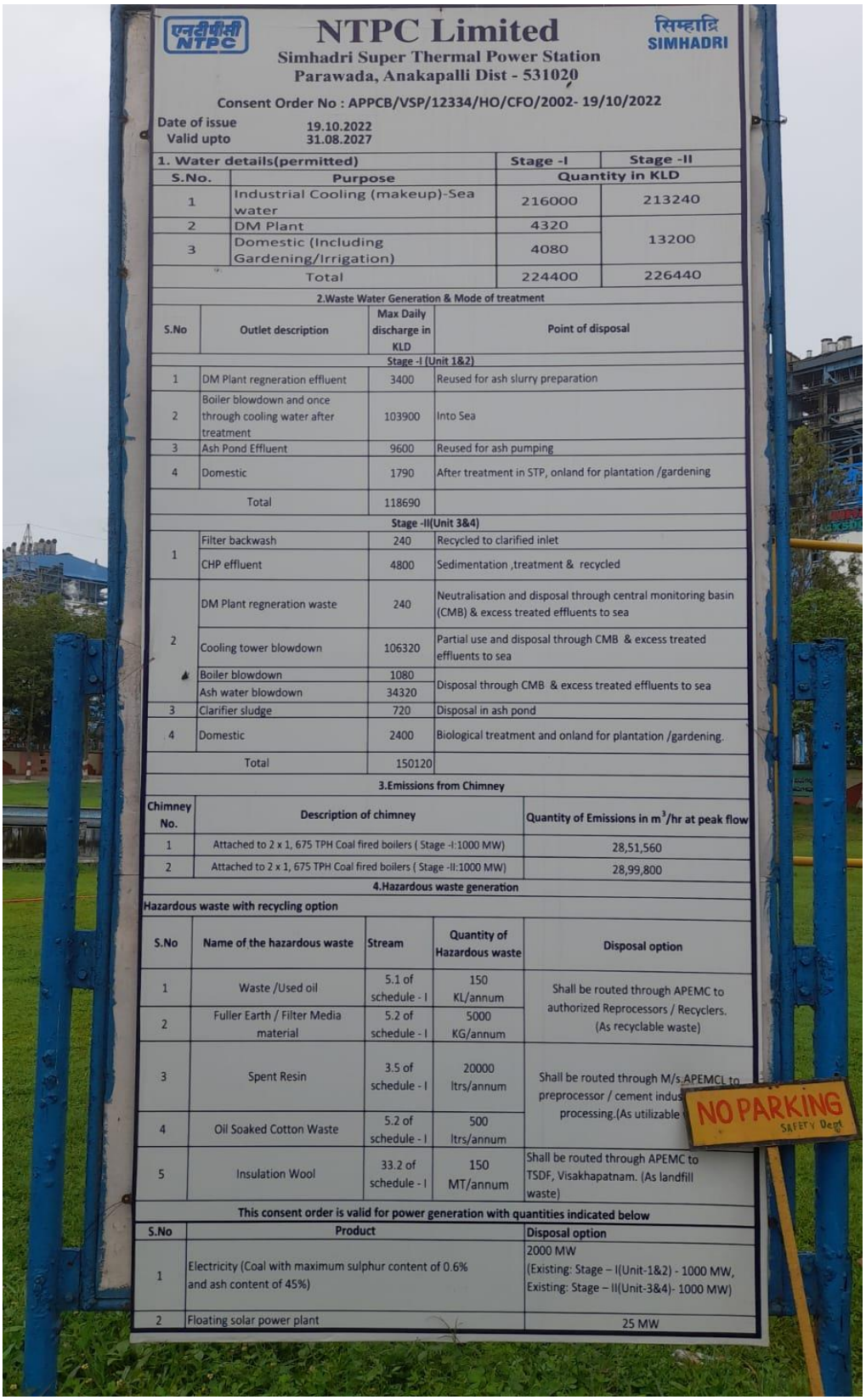
		For Track Hopper Top and Coal Stockyard plain water spray system has been provided which comprises of fine spray nozzles. Water is discharged through a pipe work system through spray heads along the entire length of track hopper on each side. The track hopper spray system is of fogging type. For suppression of dust in the coal stockyard, seawater is used. The spray heads in the coal stockyard area comprises of swiveling type spray units spaced at an interval of approx. 40 m around each coal-pile.
10.	The Industry shall submit the detailed proposals on Effluent Treatment and Air Pollution Control Equipment for Board" perusal within 2 months from the date of issue of this letter.	A detailed write-up on air pollution control equipment and effluent treatment was submitted to APPCB on 03.06.1997.
11.	The industry shall construct and commission the effluent treatment plant and install air pollution control equipment along with the commissioning of the industry. All the units of the ETP shall be impervious to prevent ground water pollution.	The effluent treatment system equipments construction started along with main plant units and had been commissioned.
12.	The industry shall plan for complete utilization of the fly ash right from the date of commissioning of the plant.	An ash utilization plan has been prepared in line with the Gazette notification on ash utilization. The plan has been submitted to APPCB/MOEF&CC.
13.	The Industry shall either procure washed coal or set up a coal washery for the thermal power plant.	MOEF&CC has permitted use of raw coal.
14.	The industry shall provide adequate space for installing flue gas desulphurization system (FGD system) in their layout, so that the same can be installed as and when prescribed by AP Pollution Control Board.	STPP had commenced the installation of FGD in 2019 for which the work is in progress. The completion of FGD is expected to be completed by December 2022. As per the latest notification of MoEF&CC dated 05.09.2022 Simhadri STPP is obligated to complete the FGD work by 31.12.2024.
15.	The industry shall make arrangements to prevent fly ash from being air borne from the fly ash dumps.	A water cover is maintained in ash disposal area and water sprinkling/earth cover is provided in dry portions of ash pond.
16.	The temp rise shall minimal at the cooling water discharge point and shall meet the standards prescribed under the E (P) Act.	The closed cycle cooling towers have been provided for condenser cooling water. Thus there would be no hot water discharge. The CT blow down is partly re-utilized and balance amount left is well within differential temperature limits.
17.	Fire protection measures to control spontaneous combustion within the coal yard shall be adopted.	As per established industrial practice, hydrant system comprising of piping, valve, hoses, nozzles etc. have been provided around the

		coal yard to control all types of fire including spontaneous combustion fire. In addition, mobile fire extinguisher systems have also been provided.
18.	The SO2 and SPM discharge into the atmosphere from their area will be high, in view of the congregation of the large number of other industries such as M/s Visakhapatnam Steel Plant, two proposed refineries and a Thermal Power Plant (M/s Hinduja National Power Corporation Ltd.,). In view of this, the industry shall use low sulphur Indian coal.	Mainly Coal from Mahanadi Coalfields, Talcher is utilized for this plant. The Sulphur content in the coal is low (0.41%).
19.	The industry shall take all steps to see that the end products of burning of the fuel do not create any pollution problem in the environment. The ambient air quality standards for industrial area shall be satisfied. Three air quality stations shall be installed at appropriate locations in consultation with AP Pollution Board.	Air Pollution control equipments have been installed to mitigate air pollution. Ambient Air Quality is being monitored manually at Three (3) mutually identified locations around the plant. In addition to the above, Online AAQM Stations are also kept in service.
20.	The Industry shall be dispose off the solid wastes to the satisfaction of the Board after obtaining prior approval.	Ash is the main solid waste generated from the power plant which is disposed off in a well designed ash disposal area. This has already been submitted to APPCB/MOEF&CC.
21.	There shall not be any perceptual odour outside the Industry's premises, creating nuisance to public and other environment. The industry shall adopt control measures at all stages where odour is likely to be generated.	Power plant does not create any odour problem. However, extensive plantation has been taken up to improve the environment in and around the plant.
22.	Suitable automatic flow measuring devices and monitoring equipments shall be installed. Continuous monitoring and recording devices shall be installed to measure SPM and SO_2 concentrations in the Power Plant stacks.	Suitable flow measuring devices are in operation. Continuous stack monitoring facility for measurement of Particulate, SO_2 and NO_X are in operation.
23.	The industry shall provide a sampling port for all the stacks with removable dummy of not less than 15 cm diameter in the stack at a distance of 8 times the diameter of the stack from the nearest constraint such as bends etc., and should provide a platform with suitable ladder below 1 meter of sampling port to accommodate three persons with instruments. The industry shall also provide a 5 Amp. 250 V plug point on the platform.	Complied. All the systems required for the sampling for Stack Emission Monitoring is provided for manual monitoring of stack emission.
24.	The industry shall provide inter-locking arrangements between the process and pollution control equipments in such a way	The required inter-locking arrangements are being provided in phased manner to each unit during unit overhauls. Unit-1,2,3 and 4

	that, whenever the tolerance limits prescribed by the Board are exceeded, the process comes to halt.	completed.
25.	Separate power connection with energy meter shall be provided for the pollution control equipments and record of power consumption and chemicals consumption for the operation of pollution control equipment shall be maintained separately.	Separate power connections with energy meters are provided for major pollution control equipments. Proper power and chemical consumption records are maintained.
26.	The progress of construction of the main process unit shall be in proportion to the installation of pollution control measures and the plantation.	This has been followed largely.
27.	Main process unit should be located at the centre of site as far as possible and the entire site should be enclosed by tall growing green plantation, preferably of species having broad leaf area.	A green belt around the plant boundary is developed as stipulated.
28.	All the rules and regulations notified by the MoEF, Govt. of India in respect of noise pollution control measures shall be followed to avoid nuisance to public. The ambient Noise level shall not exceed 75 dBA at a distance of 5 mtrs. from source.	All the equipments have been designed with noise prevention enclosures. The ambient noise level conforms to the day and night prescribed standards.
29.	The generator shall be installed in a closed area with a silencer and suitable noise absorption system so as to comply with the following ambient noise level standards : 75 dBA at a distance of 5 M from source.	Complied.
30.	The industry shall install minimum stack height to the DG Set as per CPCB guidelines. The minimum of stack shall be calculated based on the following formula : H=h+0.2 KVA H: Height of stack in mts. H: Height of the building in mts. where the DG set is installed. KVA – Total Generator Capacity in KVA.	Complied. .
31.	All the rules and regulations notified by MoEF, Govt. of India in respect of manufacture, storage and import of hazardous chemicals promulgated under Environment (Protection) Act, 1986 shall be followed.	Complied.
32.	All the rules and regulations notified by MoEF, Govt. of India in respect of management and handling of hazardous wastes promulgated under Environment (Protection) Act, 1986 shall be followed.	Complied.

33.	All the rules and regulations notified by Ministry of Law and Justice, Govt of India regarding the Public Liability Insurance Act, 1991 shall be followed.	Complied with.
34.	The Industry shall establish Environment Cell, headed by an Environmental Engineer, for environmental management in the industry.	An Environment Cell headed by AGM level executive supported by 3 executives with engineering and technical background has been established for environment management.
35.	The industry shall appoint a Horticulturist for looking after tree plantation work and further maintenance.	Plantation work and maintenance deputed to AP social Forestry division.
36.	The industry is liable to pay compensation for any environmental damage by it, as fixed by Collector and District Magistrate, as Civil liability.	Noted.
37.	If at any time during inspection of Pollution Control Board officers or officials of licensing/servicing departments if it is found that the industry is not complying with any of the above conditions, this NOC is liable for cancellation without notice and all the services rendered and license issued shall be liable for cancellation without further notice.	Noted.
38.	The industry shall report progress on implementation of the project to this office, Regional Office, A.P.Pollution Control Board, Visakhapatnam regularly.	complied.
39.	The applicant shall obtain consent for trial production before the factory goes into trial production.	The Consent for Operation (CFO) is obtained and valid until 31.08.2027 The factory is operational since 2002
40.	Regular consent of the Board shall be obtained as required under Section 25/26 of the Water (Prevention and Control of Pollution) Act, 1974 and under Section 21/22 of the Air (Protection and Control of Pollution) Act, 1981.	Consent orders are being renewed regularly and the present consent orders are valid up to 31/08/2027.
41.	The applicant shall comply with and carry out conditions issued by the Board in this consent order scrupulously. The applicant is liable for legal section as per the provisions of the relevant Acts in case of non-compliance of any conditions of the consent order.	Noted
42.	Not withstanding anything contained in this conditional letter or consent, the Board hereby reserves its right and power under	Noted.

	Section 27(2) of Water (Prevention and Control of Pollution) Act, 1974 and under Section 21(4) of Air (Prevention and Control of Pollution) Act, 1981 to review any or all the conditions imposed herein and to make such alteration as deemed fit and stipulate any additional conditions for the purpose of the Act by the Board.	
43.	The applicant shall exhibit the consent of the Board in the factory premises as a conspicuous place for the information of the inspecting officers of different departments.	Complied. Photograph enclosed



NTPC Limited

एनटीपीसी NTPC

सिम्हाद्रि SIMHADRI

Simhadri Super Thermal Power Station
Parawada, Anakapalli Dist - 531020

Consent Order No : APPCB/VSP/12334/HO/CFO/2002- 19/10/2022

Date of issue 19.10.2022
Valid upto 31.08.2027

1. Water details(permitted)		Stage -I	Stage -II
S.No.	Purpose	Quantity in KLD	
1	Industrial Cooling (makeup)-Sea water	216000	213240
2	DM Plant	4320	13200
3	Domestic (Including Gardening/Irrigation)	4080	
Total		224400	226440

2.Waste Water Generation & Mode of treatment

S.No	Outlet description	Max Daily discharge in KLD	Point of disposal
		Stage -I (Unit 1&2)	
1	DM Plant regneration effluent	3400	Reused for ash slurry preparation
2	Boiler blowdown and once through cooling water after treatment	103900	Into Sea
3	Ash Pond Effluent	9600	Reused for ash pumping
4	Domestic	1790	After treatment in STP, onland for plantation /gardening
Total		118690	
		Stage -II(Unit 3&4)	
1	Filter backwash	240	Recycled to clarified inlet
	CHP effluent	4800	Sedimentation ,treatment & recycled
2	DM Plant regneration waste	240	Neutralisation and disposal through central monitoring basin (CMB) & excess treated effluents to sea
	Cooling tower blowdown	106320	Partial use and disposal through CMB & excess treated effluents to sea
	Boiler blowdown	1080	Disposal through CMB & excess treated effluents to sea
	Ash water blowdown	34320	
3	Clarifier sludge	720	Disposal in ash pond
4	Domestic	2400	Biological treatment and onland for plantation /gardening.
Total		150120	

3.Emissions from Chimney

Chimney No.	Description of chimney	Quantity of Emissions in m^3/hr at peak flow
1	Attached to 2 x 1, 675 TPH Coal fired boilers (Stage -I:1000 MW)	28,51,560
2	Attached to 2 x 1, 675 TPH Coal fired boilers (Stage -II:1000 MW)	28,99,800

4.Hazardous waste generation

Hazardous waste with recycling option

S.No	Name of the hazardous waste	Stream	Quantity of Hazardous waste	Disposal option
1	Waste /Used oil	5.1 of schedule - I	150 KL/annum	Shall be routed through APEMC to authorized Reprocessors / Recyclers. (As recyclable waste)
2	Fuller Earth / Filter Media material	5.2 of schedule - I	5000 KG/annum	
3	Spent Resin	3.5 of schedule - I	20000 ltrs/annum	Shall be routed through M/s.APEMCL to preprocessor / cement indus processing.(As utilizable
4	Oil Soaked Cotton Waste	5.2 of schedule - I	500 ltrs/annum	
5	Insulation Wool	33.2 of schedule - I	150 MT/annum	Shall be routed through APEMC to TSDF, Visakhapatnam. (As landfill waste)

This consent order is valid for power generation with quantities indicated below

S.No	Product	Disposal option
1	Electricity (Coal with maximum sulphur content of 0.6% and ash content of 45%)	2000 MW (Existing: Stage – I(Unit-1&2) - 1000 MW, Existing: Stage – II(Unit-3&4)- 1000 MW)
2	Floating solar power plant	25 MW

NO PARKING
SAFETY Dept

(End)

COMPLIANCE STATUS
OF
ENVIRONMENTAL CLEARANCE
Stage-I (2x500 MW)

NTPC Limited
SIMHADRI SUPER THERMAL POWER STATION

ENVIRONMENT MANAGEMENT GROUP
NTPC-SIMHADRI (PO)
PIN: 531 020
Andhra Pradesh

September 2024

NTPC-SIMHADRI SUPER THERMAL POWER STATION

ENVIRONMENTAL CLEARANCE

Stage – I (2X500 MW)

Sl. No.	Conditions Stipulation	Status of Implementation as on 30.09.2024
1.	The Consent Order no. 20/PCB/C.Estt./RO-VSP/AEE-VIII/95 dated 13th November, 1995 of Andhra Pradesh Pollution Control Board for establishment of Simhadri Thermal Power Project should be got transferred in favour of NTPC Limited, the executing agency.	The consent orders for establishment of Simhadri TPP has been transferred vide order no. 20/PCB/C.Estt/RO-VSP/AEE-N/96-3828 dtd. 06.09.96 in the name of NTPC Limited by APPCB.
2.	A bi-flue of height 275 metres with continuous stack monitoring facility should be installed.	A bi-flue stack of height 275 meters has been constructed.
3.	The Electro Static Precipitators(ESP) having efficiency of not less than 99.8% shall be installed and it should be ensured that particulate emission would not exceed prescribed limit of 150 mg/Nm3.	Installed high efficiency Electrostatic Precipitators (ESPs) of efficiency 99.93% which are in operation to limit the particulate emission below 100 mg/ Nm3
4.	A closed circuit cooling device should be provided. The water requirement should be limited to 600 cum/hr from the Yeleru Canal and 9100cum/hr from the sea. The proposed pipeline of 6.0 km. for Seawater intake should conform to the regulation of the Coastal Zone Notification of February 1991.	A closed circuit type Circulating Cooling Water System using Natural Draft Cooling Towers have been provided. There are two cooling towers each of 165 m height. The water requirement is limited to 600 m3/hr. from Yeleru canal. The sea water pumps are rated for 9000 m3/hr and sea water drawl is limited to below 9100 Cum/Hr Make-up water to CW system is drawn from the sea through underground pipelines and are as per the CRZ notification of Feb'1991.
5.	Adequate space should be provided for installation of FGD plant in future for control of sulphur dioxide.	Adequate space for FGD was provided in the initial design itself. And to control and limit SO2 emission as mandated to be around 200 mg/Nm3 under all design conditions, Simhadri STPP had commenced the installation of FGD in 2019 for which the work is in progress. The completion of FGD is expected to be completed by within deadline. As per the latest notification of MoEF&CC dated 05.09.2022 Simhadri STPP is obligated to complete the FGD work by 31.12.2024
6.	Acquisition of land should be restricted to 2381.00 acres including the area of	The land acquired for main plant, including ash disposal area is limited to 2381 acres.

	630 acres for ash disposal.	However, an additional land of about 1063 acres was acquired for diversion of a nalla, railway corridors etc.
7.	Only beneficiated coal to the tune of 14,844 tonnes/day should be used. Fly ash generated to the tune of 33.5 million CUM should be collected in dry form in silos and fully utilized in a phased manner. Presently, plan has been drawn for utilization of 20% ash. A detailed scheme for full utilization should be submitted to the ministry by 31st December 1996. For avoiding contamination of ground water, ash pond should be suitably lined and dyked.	NTPC approached MOEF&CC vide letter dated 16.12.1997 and 16.01.1998 regarding the permission to use raw coal. MOEF&CC vide letter dated 06.02.1998 has given no objection in using the raw coal. Dry Ash Extraction and Collection Systems have been provided for supply of quality ash to entrepreneurs. Initially an ash utilization plan was submitted to MOEF&CC vide letter dated 09.06.1997 and is being revised as per the directions of MOEF&CC. MOEF&CC vide letter dated 20.05.2002 has waived the ash pond lining.
8.	Noise level should be limited to 85 dB(A) and regular maintenance of equipment be undertaken. For people working in the area of generator halls and other high noise areas, earplugs should be provided.	Individual equipments have been designed with 85 dB (A) noise limits. Regular maintenance of equipments are undertaken to keep noise levels within limits. For people working in of generator halls and other high noise area are provided with appropriate ear protection devices at the site.
9.	A Rehabilitation Master Plan covering details of the provision made for rehabilitation of 150 families, compensation package, training facilities etc., should be submitted within four months i.e., by November 1996. The plan should specifically indicate the schedule and implementation.	District Collector, Visakhapatnam during a meeting held on 12.10.1998 on R&R opined that, in view of the negotiated compensation, there is no need for a RAP as per R&R policy of NTPC for Simhadri TPP. Accordingly, NTPC vide letter dated 10.12.98 has communicated MoEF&CC the decision of District Collector, Visakhapatnam enclosing the MOM held on 12.10.1998. NTPC has undertaken community development activities in the nearby villages. Facilities like approach road to villages, drinking water, school building, hospital etc for the people of the villagers have been undertaken. Rehabilitation & Resettlement facilities are as the directions of District Collector of Vishakhapatnam , by which it is only required that had opined that the Simhadri STPP should engage in CSR activities and that there was no need for RAP as per the R&R policy of the respondent. Accordingly, the respondent herein vide letter dated 10.12.1998 has communicated the decision of

		District Collector, Visakhapatnam enclosing the Minutes of Meeting (MOM) held on 12.10.1998 to the MOEF&CC. Simhadri STPP has undertaken community development activities in the nearby villages. Approach road to villages, drinking water, school building, hospital and other such CSR activities were undertaken by Simhadri STPP. More than Rs.114 Crores was spent under CSR&CD head from FYs 2004-05 to 2021-2022 in the nearby 30 No of villages of Simhadri STPP and about Rs.1.48 Crores expenditure has been incurred by the Simhadri STPP for the Pittavanipalem village alone towards the CSR-CD activities.
10.	For controlling fugitive dust, regular sprinkling of water in coal handling and other vulnerable areas of the plant should be ensured.	Adequate number of dust suppression, dust extraction systems are provided in coal handling area including coal stockyard area and other dust prone areas for control of fugitive dust emissions. Water sprinklers are installed at dust prone sites in order to attenuate fugitive dust emission. Conflow dust suppression systems are provided at all transfer points. There was no stipulation regarding high pressure mist spray sprinkles at coal storage yard. Simhadri STPP has installed high pressure dust suppression water spray system (Rain guns) in coal yard with mechanical rotators which are working effectively to control the fugitive dust emission from coal yard. Simhadri STPP has installed High pressure water spray guns in all the Stage-I coal piles. 11 No's high-pressure rotating mist spray guns are in place each pile in both Stage-I&II. The total 88 no. of high-pressure rotating water spray rain guns are installed for 8 nos of Coal piles in Stage-I &II. In addition, for Dust Suppression, water nozzle spray System is in place for coal handling area including for Track Hopper and Wagon Tipplers Coal Stockyard water spray system is being used which comprises of fine spray nozzles. Adequate number of Dust suppression (DS) and Dust extraction (DE) systems are installed in coal handling area including coal handling area and other dust prone area for control of fugitive dust emissions. Water sprinklers were also installed at dust prone sites in order to

		attenuate fugitive dust emission. Dry fog dust suppression system is provided at all transfer points.
11.	Afforestation should be undertaken covering an area of 292 acres and should be implemented in a phased manner. After care, gap filling and monitoring should be ensured. A norm of 1500-2000 trees per ha should be followed. The afforestation plan may be submitted by November 1996 and the schedule given in it is adhered to strictly.	Simhadri STPP started planting trees right from the approval stage of setting up the station i.e from the year 1998 to 2022 and will be continued. Around 7,000 nos. of tall growing species of tree plantation have been planted around coal piles to mitigate fugitive dust emission. Extensive plantation and afforestation are being undertaken in all available spaces in and around Simhadri. Till date 6,60,000 No's of Trees are planted in 650 Acres of plantation in and around NTPC-Simhadri; In addition, 5,50,000 No's of Plantation under Green Visakha Plantation programme in and around city of Visakhapatnam have been completed after the grant of Environmental Clearance (EC) dated 23.07.1996 and 01.08.2007. To support State Government's Plantation Program in the area "Haritha Haram" plantation of 2,80,000 Lakh trees were planted in Paderu under accelerated afforestation program. In addition to this, annual target of 40,000 tree saplings is being carried through Andhra Pradesh Social forestry division since 2019. Over 25,000 No's of saplings are planted under VANAM MANAM program of Andhra Pradesh Government. Distribution of 3,00,000 Lakhs worth fruit bearing tree plantations to surrounding villages every year. After the HUDHUD cyclone, to compensate the greenery loss, NTPC Simhadri had contributed around Rs.50,00,000 by distributing 3,50,000 No's of fruit bearing trees in six mandals of Vishakhapatnam District. It amounts to contribution of an afforestation area of about 3285 acres in total and an expenditure of around Rs.60 Crores.
12.	Continuous monitoring of ground water should be undertaken by establishing good network of observation wells in consultation with the Central Ground Water Board. Results and data collected should be analysed to ascertain the status of water quality and findings should be submitted for evaluation.	Monitoring of Ground Water in 10 Ground water locations in nearby villages around the plant and ash disposal area is being done regularly and the data is being submitted on monthly basis to Regional office , APPCB and to Regional Office of MoEF&CC, Bangalore on Half-yearly basis
13.	All effluents generated in various plant activities should be collected in the	As per specification, all the effluents generated are treated in the treatment plant at

	Central Effluent Treatment Plant and treated to ensure adherence to specified standards of discharge. The concept of zero discharge should be adapted to a maximum possible extent.	the respective point of origin and monitored in EQMS station before letting out through Marine outfall. The DM Plant effluents are treated in Neutralization pits and recycled for Ash disposal. The Debris filter back wash effluents are recycled to the Cooling water Circuit after due filtration. Ash decant water from Ash dykes is recycled to Ash water make up circuit thro' Ash water recirculation System (AWRS) Pre Treatment Sludges are recycled to Ash water slurry system. Remaining Cooling water blow down after usage for ash water make up and Fugitive dust control is let out through' consented Marine outfall whose effluent parameters are monitored 24X7, real time basis through' EQMS. The concept of zero discharge, though not mandated by MOEF&CC for sea water based power plant , every effort is made to recycle all the plant effluents; The concept of ZLD has been adopted to the maximum possible and all plant effluents are recycled to the plant processes.
14.	Keeping in view that 2x520MW Thermal Power Plant by M/s. Hinduja National Power Corporation Ltd. (HNPCL) is proposed in the vicinity of Simhadri project, common facilities for coal transportation, laying of rail line etc. should be worked out in mutual consultation to avoid duplication of the facilities and acquisition of additional area.	NTPC has created facilities for coal transportation by laying of rail line etc., to cater the needs of Simhadri TPP.
15.	Financial provision of Rs. 301.55 crores should be provided for implementation of environmental mitigative measures with adequate scope for its enhancement, if required, in future	Simhadri STPP has spent Rs.739.30 crores for Stage-I units for environmental mitigation measures as per the Environmental compliance requirement.
16.	Regular monitoring for SPM, SO2 and NOx around the power plant may be carried out and records maintained. The data so collected should be properly analysed and submitted to the Ministry every six months	The monitoring for SPM, SO2 and NOx is being continued around the power plant and the data is being submitted to Regional MoEF&CC on every six months after analysis.

17.	Full cooperation should be extended to Scientists / Officers from the Regional Office of the Ministry at Bangalore who would be monitoring the compliance of environmental status. Complete set of impact assessment report and the Management Plans should be forwarded to the Regional Office for their use during monitoring.	Full cooperation is being extended to the Scientists and officers of Regional Office of MOEF&CC by site. NOC, EIA report and EMP have been submitted to Regional Office of MOEF&CC, on 07.01.1997.
18.	Monitoring Committee should be constituted for reviewing the compliance to various safeguard measures by involving recognized local NGOs, Pollution Control Boards, Institutions, Experts etc.,	A Monitoring Committee has been constituted on 03.11.1999 as per stipulation and subsequently MoEF has been informed vide letter dated 17.11.1999. A Monitoring Committee has been constituted on 03.11.1999 as per requirement and subsequently MoEF&CC has been informed about the same vide letter dated 17.11.1999. The Committee in place conducts meetings regularly to review the Environmental safeguards and compliance measures ensures that necessary actions have been taken up by Simhadri STPP for development of the nearby villages. Committee is regularly meeting to review the Environment safeguards and compliance to measures.

OM No. J-13011/19/94-IA-II(T) dated 6th February, 1998.

Sl.No.	Conditions	Status of Implementation as on 30.09.2024
1.	Use of coal should not exceed 16,800 tonnes per day for 100% PLF operation. Fly ash should be collected in dry form and should be fully used in a phased manner. Acquisition of land for ash disposal should be restricted to 630 acres. Presently, plan has been drawn for utilization of only 20% ash. A detailed scheme should be drawn for full utilization and submitted by June, 1998 for avoid contamination of ground water; ash pond should be suitably lined and dyked.	The quantity of coal stipulated is based on data provided by NTPC. A facility for collection of dry ash has been provided for the promotion of Ash Utilization. Scheme for full Ash Utilization has been forwarded to MoEF&CC on 09.06.1997. The ash disposal area has been restricted to 630 acres. The issue of lining of ash dyke was taken up with MoEF&CC. MoEF&CC vide letter dated 20.05.2002

		has waived the ash pond lining.

OM No. J-13011/19/94-IA-II (T) dated 20th May, 2002.

S. No.	Conditions	Status of Implementation as on 30.09.2024
3.	Keeping in view the findings of the study report and geo-hydrological conditions in the region, Ministry partially modifies condition no. 2(viii) of the environmental clearance issued for the project vide its letter of even number dated 23rd July, 1996 regarding **lining of ash pond**. The ash disposal area identified for the project need not be lined. However, following mitigation measures should be ensured during operation of the plant.	The condition of ash pond lining has been waived off vide MoEF&CC letter dated 20.05.2002. Monthly monitoring of Ground Water Analysis is being done around the plant and Ash Dyke points as per State Pollution Control Board guidelines. These reports are being submitted to APPCB.
i)	No earth/ clay matter should be removed from the ash dyke hence forth for any activity related to the project.	Noted.
ii)	Leachate collections should be undertaken through Lysimeter at 6-10 locations around the ash dyke and monitoring report should be regularly submitted along with its analysis for ascertaining its change in water quality. For facilitating comparison, continuous monitoring of ground water quality should be immediately initiated to serve as baseline data.	Lysimeter have been installed at 3 locations near ash pond. No leachate is found. Further 08 no's of Piezometers through Andhra University are installed around the Dyke.
iii)	In the initial period, only fly ash should be discharged in ash dyke due to its grain size being similar to soil profile.	Noted.
iv)	Green belt should be created around the ash dyke for controlling fugitive dust. A detailed proposal indicating area coverage and phased action plan should be submitted within three months.	Land is not available around ash dyke to raise green belt. However, about 13 rows of 6000 tall growing trees planted between ash dykes and villages at a stretch of 2 kms around the dykes. For control of fugitive dust, water cover, deployment of water sprinklers and wind barrier are being maintained on the ash ponds.
4.	NTPC should ensure strict implementation of all other environmental conditions stipulated in the clearance letter and its subsequent amendments.	Noted.

F. NO. J-13012/8/2009-IA.II(T) Dated 11.11.2020

1.	Details regarding change in source(location of the source, proposed quantity, distance from the power plant and mode of transportation), quality (ash, sulphur, moisture content, calorific value) shall be informed to the ministry and its concerned Regional Office. The quantity of coal transported from each source along with the mode of transportation shall be submitted as a part of EC Compliance report.	NTPC Simhadri sources its coal from Talcher, IB and Singreni mines with Ash percentage ratio between 35%-45%. Sulphur content 0.41% by mass.
2.	The applicable Flue gas emissions standards for Particulate matter , Oxides of Nitrogen and sulphur, Mercury shall be complied in ,line with the ministry notification S.O. 3305(E) dated 07.12.2015 and subsequent emissions. A progress of implementation and its compliance shall be submitted as part of compliance report.	Complied
3.	Ash content in the coal and coal transportation is governed by the Ministry notification vide S.O. 1561(E) dated 21.05.2020. As far as possible coal transportation should be done by rail/conveyor or other eco friendly modes. However road transportation is allowed on tarpaulin covered Trucks till the railway/conveyor belt infrastructure is made available.	Complied, Coal transportation is done through Railway
4.	Details regarding monthly generation, utilization and disposal of fly ash (including bottom ash) shall be submitted to the ministry and its regional Office.	Complied
5.	The 100% Fly ash utilization is to be achieved within 4 years in line with Fly ash notifications dated 14.09.1999, 27.08.2003, 03.11.2009, 25.01.2016 and amended time to time and extant regulation on Fly ash utilization.	Complied

COMPLIANCE STATUS
OF
CONSENT FOR ESTABLISHMENT
STAGE- 2 (2x500 MW)

NTPC Limited
SIMHADRI SUPER THERMAL POWER STATION

ENVIRONMENT MANAGEMENT GROUP
NTPC-SIMHADRI (PO)
PIN: 531 020
Andhra Pradesh

September 2024

NTPC - SIMHADRI SUPER THERMAL POWER STATION
[Stage – II (2x500 MW)]
COMPLIANCE STATUS OF CONSENT FOR ESTABLISHMENT
(APPCB Letter dated 01.10.2007)

Schedule: 'A'

Sl. No.	CONDITIONS STIPULATED	Status of Implementation as on 30.09.2024
01.	Progress on implementation of the project shall be reported to the Regional Office, AP Pollution Control Board, and Visakhapatnam once in six months.	Complied.
02	Separate energy meters shall be provided for Effluent Treatment Plant and Air Pollution Equipment to record energy consumed	Separate Energy Meters are provided for the Pollution Control Equipments like ESP, EDP Pump House, Sewage Treatment Plant etc.,
03.	The proponent shall obtain Consents for operation from APPCB, as required Under Sec. 25/26 of the Water (P&C of P) Act 1974 and under sec. 21/22 of the Air (P&C of P) Act 1981, before commencement of the activity.	The Consents for operation from APPCB have been obtained and valid up to 31.08.2027.
04.	Notwithstanding anything contained in this conditional letter or consent, the Board hereby reserves its right and power Under Sec. 27(2) of Water (Prevention and Control of Pollution) Act 1974 and Under Sec. 21(4) of Air (Prevention and Control of Pollution) Act, 1981 to review any or all the conditions imposed herein and to make such alternation as deemed fit and stipulate any additional conditions by the Board.	Noted.
05.	The consent of the Board shall be exhibited in the factory premises at a conspicuous place for the information of the inspecting officers of different departments.	Complied, Photograph enclosed
06.	Compensation is to be paid for any environmental damage caused by it, as fixed by the Collector and District Magistrate as civil liability.	Noted.
07.	Floor washing shall be admitted into the effluent collection system only and shall not be allowed to find their way in storm drains or open areas. The industry shall maintain a good housekeeping. All pipe valves, sewers, drains shall be leak proof. Dyke walls shall be constructed around storage of chemicals.	Being complied.

08.	Rain Water Harvesting (RWH) structure(s) shall be established on the plant site. The proponent shall ensure that effluent shall not enter the Rain Water harvesting structure.	Rainwater Harvesting structures like recharge well, Contour Built Filters with check dams and Rain Water Harvesting Pond is created in Simhadri Plant and Township areas as suggested by Central Ground Water Board. They have suggested to monitoring ground water levels and quality at regular intervals which is being complied with religiously. Rainwater harvesting pond developed in Simhadri Township with approx.. capacity of 20000cum.
09.	The rules and regulations notified by Ministry of Law and Justice, GOI, regarding the Public Liability Insurance Act 1991 shall be followed.	Public Liability Insurance (PLI) is available with validity
10.	The order is valid for a period of **5 years** from the date of issue	Noted.

Schedule: 'B'

<table>
<tr><td>01.</td><td>The source of water is Sea water(8885 M3/Hr) from Bay of Bengal and Sweet water from Yeluru left bank canal (550 M3/Hr) and the maximum permitted water consumption after expansion is 4,66,920 KLD.</td><td>Complied.</td></tr>
<tr><td>02.</td><td>The Effluent Treatment Plant (ETP) shall be constructed and commissioned and Air Pollution control equipment shall be installed along with the commissioning of the activity. All the units of the ETP shall be impervious to prevent ground water pollution.</td><td>Complied</td></tr>
<tr><td>03.</td><td>The trade effluents shall be treated to the marine water standards, stipulated under Environment (Protection) Rules, 1986 notified and published by Ministry of Environment and Forests, Government of India as specified in schedule VI vide G.S.R. 422 (E) dt. 19.05.1993 and its amendments thereof.</td><td>Being complied</td></tr>
<tr><td>04.</td><td>The maximum waste water generation (m3/hr) shall not exceed the following as mentioned at table no.2.4.1 in the EIA report
<table>
<tr><th>Effluent stream</th><th>Quantity M^3/Hr</th><th>Treatment/ disposal</th></tr>
<tr><td>Clarifier sludge</td><td>30</td><td>Disposal in ash pond</td></tr>
<tr><td>Filter back wash</td><td>10</td><td>Recycled to clarifier inlet</td></tr>
<tr><td>DM plant regene-ration waste</td><td>10</td><td>Neutralization and disposal through CMB</td></tr>
<tr><td>CT Blow down</td><td>4430</td><td>Partial use and disposal through CMB</td></tr>
<tr><td>Boiler Blow down</td><td>45</td><td>Disposal through CMB</td></tr>
<tr><td>CHP effluent</td><td>200</td><td>Sedimentation treatment and recycle</td></tr>
<tr><td>Ash water blow down</td><td>1430</td><td>Disposal through CMB</td></tr>
<tr><td>Sanitary waste</td><td>100</td><td>Biological treatment and disposal</td></tr>
</table></td><td>Being complied</td></tr>
</table>

<table>
<tr><td></td><td>
<table>
<tr><th>Source effluent</th><th>Proposed treatment</th><th>Mode of disposal</th></tr>
<tr><td>Thermal discharges from condenser and auxiliary cooling, coal handling plant waste, oily waste water, DM waste water etc. ash pond effluent</td><td>ETP</td><td>Collected into Central Monitoring Basin CMB and excess treated effluent sent to sea through existing facility</td></tr>
<tr><td>Sanitary waste from plant and township</td><td>STP</td><td>Shall be utilized on land for green belt after confirming to on land for irrigation standards</td></tr>
</table>
</td><td>Being complied</td></tr>
<tr><td>05.</td><td>Separate meters with necessary pipe line shall be provided for assessing the quantity of water used for each of the purposes mentioned below:
a. Industrial cooling, and boiler feed
b. Domestic purposes
c. Processing, whereby water gets polluted and Pollutants are easily biodegradable.
d. Processing, whereby water gets polluted and the pollutants are not easily bio-degradable.</td><td>Complied.</td></tr>
<tr><td>06.</td><td>The proponent shall comply with the following for controlling air pollution.
Proposed:-
<table>
<tr><th>S. No</th><th>Details of Stack</th><th></th></tr>
<tr><td>a.</td><td>Attached to</td><td>Boiler</td></tr>
<tr><td>b.</td><td>Capacity</td><td>Assisted circulated drum type super heated boiler -1675 MT/Hr each (2 Nos.)</td></tr>
<tr><td>c.</td><td>Fuel form</td><td>Solid (pulverized coal)</td></tr>
<tr><td>d.</td><td>Quantity</td><td>Coal-8901 MT per day</td></tr>
<tr><td>e.</td><td>Stack height</td><td>1 x 275 mtr. with twin flue</td></tr>
<tr><td>f.</td><td>Control equipment</td><td>ESP</td></tr>
<tr><td>g.</td><td>Standard</td><td>SPM 100 mg/NM^3 as stipulated in EC dated 01.08.07 and 50 mg/NM^3 as per revised emission norms.</td></tr>
</table>
<table>
<tr><th>Details of fugitive emissions</th><th>Control equipment</th></tr>
<tr><td>Coal handling section</td><td>Dust suppression system</td></tr>
</table>
</td><td>• The electrostatic precipitators are designed for a guaranteed efficiency of 99.93 %.
• ESP’s are designed to limit the particulate emission to 50 mg/Nm3 under worst coal / turbine maximum operating conditions even with one series field out of operation. These ESP’s have 10 stages of fields (8 fields per stage) with total collection area of 224640m^2.
• Bi-flue stack of 275m have been provided.</td></tr>
<tr><td>07.</td><td>A sampling port with removable dummy of not less than 15 cm diameter shall be provided in the stack at a distance of 8 times the diameter of the stack from the nearest constraint such as bends etc. A platform with suitable ladder shall be provided below 1 meter of sampling port to accommodate three persons with instruments. A 15Amp. 250V plug point</td><td>All the systems required for the sampling are provided for manual monitoring of stack emission.</td></tr>
</table>

<table>
<tr><td></td><td>shall be provided on the platform.</td><td></td></tr>
<tr><td>08.</td><td>Space provision shall be made for installation of FGD of requisite efficiency of removal of SO_2, if required at a latter stage.</td><td>As per MoEF notification 05.09.2022, extension for completion for FGD works is granted up to 31.12.2024</td></tr>
<tr><td>09.</td><td>The proponent shall comply with the following;
<table>
<tr><td>Sl. No.</td><td>Solid waste generated from</td><td>Quantity MT/day</td><td>Method of disposal</td></tr>
<tr><td>1.</td><td>Boiler</td><td>7380 TPD</td><td>Ash shall be utilized for laying of roads, increasing of ash and dyke heights and cement and brick manufacturing units</td></tr>
</table></td><td>Being complied.</td></tr>
<tr><td>10.</td><td>Fly ash shall be collected in dry form and its 100% utilization shall be achieved within 9 years as stipulated by MOEF in EC dated. 10.08.07</td><td>Provision is being made for 100 % collection of fly ash in dry form; Stage-II DAES commissioned. Fly ash Utilization for the Period 2023-24 is 118%</td></tr>
<tr><td>11.</td><td>The following rules and regulations notified MOEF, GOI shall be implemented
Hazardous waste (Management and Handling), Rules 1989.</td><td>Being complied.</td></tr>
<tr><td>12.</td><td>As stipulated in the EC dated. 01.08.07, in lieu of the 25 acres of green belt area to be utilized for the project, green belt shall be developed in an area of 10 acres between coal handling plant and cooling tower of stage II. Additionally, afforestation shall be carried out in an area of 75 acres outside the plant premises in consultation with the State Forest Department. Green Belt development shall be started along with the construction activity of the expansion project.</td><td>The tree Plantation at the station is more than 6 lacs at an area nearly 600 acres as on today.

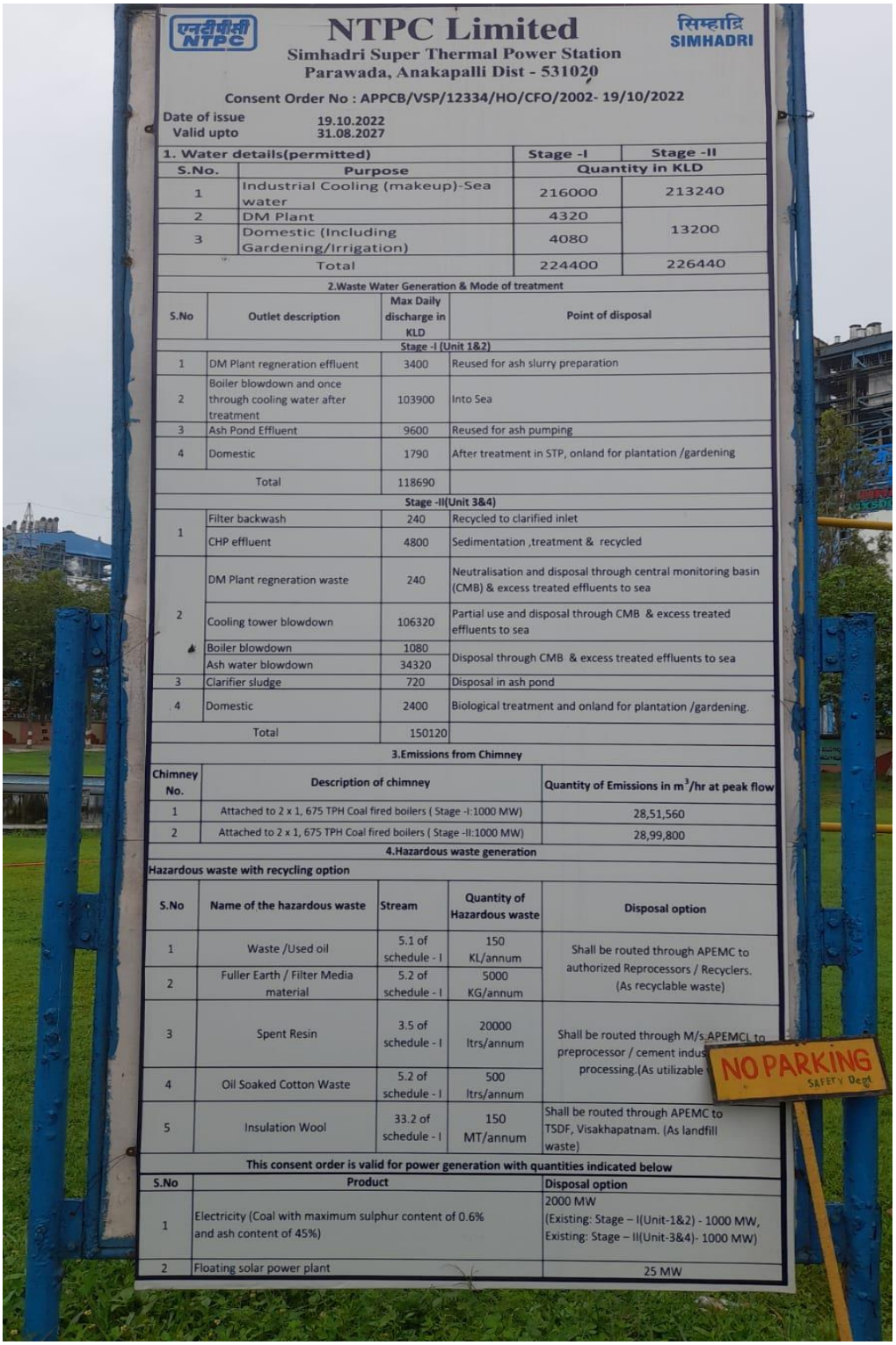
Besides this 5.50 lakhs trees are planted under Green Visakha.

40,000 Plantation per annum completed since 2019, under Afforestation programme of NTPC

Total Plantation: 20.46 Lakhs.

Around 6000 no.s of tall growing species of tree plantation is completed around coal piles to mitigate fugitive dust emission.</td></tr>
<tr><td>13.</td><td>A water cover shall be maintained in the entire ash pond area to check fugitive emissions.</td><td>A water cover/ water sprinkling arrangement is being maintained in the ash disposal area to prevent fly ash from getting air borne during operation of the station.
Wind barriers are installed to reduce 30 % of average fugitive</td></tr>
</table>

		dust emission. Sprinkling of water through sprinklers, water tankers in place.
14.	The project shall have a closed cycle cooling system with cooling towers.	A closed cycle cooling system using natural draft cooling towers is being provided for treating cooling water. There are two cooling towers each of 165m height.
15.	The recommendations/commitments made during the Public Hearing held on 9.1.2007 at Zilla Parishad Girls High School, Parawada, Visakhapatnam Distt shall explicitly be followed from pollution control point of view.	Being complied.
16.	The proponent shall submit water balance in KLD indicating quantity of water consumed losses, wastewater generated, treatment, quantity of waste water recycled/reused and point of final disposal for each purpose/stream in a tabular formal with in 15 days.	The proposed water balance diagram has been incorporated in EIA study report prepared for the project.



NTPC Limited

Simhadri Super Thermal Power Station
Parawada, Anakapalli Dist - 531020

सिम्हाद्रि
SIMHADRI

Consent Order No : APPCB/VSP/12334/HO/CFO/2002- 19/10/2022

Date of issue 19.10.2022
Valid upto 31.08.2027

1. Water details(permitted)		Stage -I	Stage -II
S.No.	Purpose	Quantity in KLD	
1	Industrial Cooling (makeup)-Sea water	216000	213240
2	DM Plant	4320	13200
3	Domestic (Including Gardening/Irrigation)	4080	
Total		224400	226440

2.Waste Water Generation & Mode of treatment

S.No	Outlet description	Max Daily discharge in KLD	Point of disposal
	Stage -I (Unit 1&2)		
1	DM Plant regneration effluent	3400	Reused for ash slurry preparation
2	Boiler blowdown and once through cooling water after treatment	103900	Into Sea
3	Ash Pond Effluent	9600	Reused for ash pumping
4	Domestic	1790	After treatment in STP, onland for plantation /gardening
Total		118690	
	Stage -II(Unit 3&4)		
1	Filter backwash	240	Recycled to clarified inlet
	CHP effluent	4800	Sedimentation ,treatment & recycled
2	DM Plant regneration waste	240	Neutralisation and disposal through central monitoring basin (CMB) & excess treated effluents to sea
	Cooling tower blowdown	106320	Partial use and disposal through CMB & excess treated effluents to sea
	Boiler blowdown	1080	Disposal through CMB & excess treated effluents to sea
	Ash water blowdown	34320	
3	Clarifier sludge	720	Disposal in ash pond
4	Domestic	2400	Biological treatment and onland for plantation /gardening.
Total		150120	

3.Emissions from Chimney

Chimney No.	Description of chimney	Quantity of Emissions in m^3/hr at peak flow
1	Attached to 2 x 1, 675 TPH Coal fired boilers (Stage -I:1000 MW)	28,51,560
2	Attached to 2 x 1, 675 TPH Coal fired boilers (Stage -II:1000 MW)	28,99,800

4.Hazardous waste generation

Hazardous waste with recycling option

S.No	Name of the hazardous waste	Stream	Quantity of Hazardous waste	Disposal option
1	Waste /Used oil	5.1 of schedule - I	150 KL/annum	Shall be routed through APEMC to authorized Reprocessors / Recyclers. (As recyclable waste)
2	Fuller Earth / Filter Media material	5.2 of schedule - I	5000 KG/annum	
3	Spent Resin	3.5 of schedule - I	20000 ltrs/annum	Shall be routed through M/s.APEMCL to preprocessor / cement indus processing.(As utilizable
4	Oil Soaked Cotton Waste	5.2 of schedule - I	500 ltrs/annum	
5	Insulation Wool	33.2 of schedule - I	150 MT/annum	Shall be routed through APEMC to TSDF, Visakhapatnam. (As landfill waste)

This consent order is valid for power generation with quantities indicated below

S.No	Product	Disposal option
1	Electricity (Coal with maximum sulphur content of 0.6% and ash content of 45%)	2000 MW (Existing: Stage – I(Unit-1&2) - 1000 MW, Existing: Stage – II(Unit-3&4)- 1000 MW)
2	Floating solar power plant	25 MW

NO PARKING
SAFETY Dept

(END)

COMPLIANCE STATUS
OF
ENVIRONMENTAL CLEARANCE
Stage-II (2x500 MW)

NTPC Limited
SIMHADRI SUPER THERMAL POWER STATION

ENVIRONMENT MANAGEMENT GROUP
NTPC-SIMHADRI (PO)
PIN: 531 020
Andhra Pradesh

September 2024

NTPC-SIMHADRI SUPER THERMAL POWER STATION

ENVIRONMENTAL CLEARANCE

Stage – II (2X500 MW)

Sl.NO.	CONDITIONS STIPULATED	Status of Implementation as on 30.09.2024
3).		
i).	No activities in CRZ area shall be taken up without obtaining requisite prior clearance under the provisions of the CRZ notification, 1991.	The CRZ area clearance was obtained from MOEF&CC, vide letter dated 25.06.2008.
ii).	Ash and sulphur content in the coal to be used as fuel shall not exceed 45% and 0.6% respectively.	The ash and sulphur content in the coal are average of 38 % ash and 0.41% sulphur.
iii).	Space provision shall be made for installation of Flue Gas De-sulphurisation (FGD) of requisite efficiency of removal of SO_2, if required at later stage.	To control and limit SO_2 emission as mandated to be around 200 mg/Nm^3 under all design conditions, Simhadri STPP had commenced the installation of FGD in 2019 for which the work is in progress. The completion of FGD is expected to be completed by December 2022. As per the latest notification of MoEF&CC dated 31.03.2021 Simhadri STPP is obligated to complete the FGD work by 31.12.2024.
iv).	A bi-flue Stack of 275 m height with exit velocity of at least 22.2. M/sec shall be provided with continuous online monitoring system.	A bi-flue stack of 275 meters height has been constructed. Exit velocity of more than 22.2 m/sec is being maintained. Continuous online stack monitoring facility for measurement of Particulate, SO_2 and NO_x shall be provided.
v).	High efficiency Electrostatic Precipitators (ESPs) having efficiency of 99.9% shall be installed so as to ensure that particulate emission does not exceed 50 mg/Nm3.	Installed high efficiency Electrostatic Precipitators (ESPs) of efficiency 99.9% are in operation to limit the particulate emission below 50 mg/ Nm^3
vi).	Closed cycle cooling system with natural draft cooling towers shall be provided.	A closed cycle circulating cooling water system using Natural Draft Cooling Towers (NDCT) has been provided.
vii).	Treated effluents conforming to the prescribed standards shall be re-circulated and reused within the plant. The discharge, if any, into the sea shall be at ambient temperature from the cold side.	Provisions were made to re circulate cooling water blow down and ash pond effluents. The cooling tower blow down is being used significantly for ash transportation. The effluent treatment system comprising of neutralization pit, oil and grease separator, sediment tank, cooling towers etc is provided. The effluents will be treated adequately and discharged through CMB.

		The treated effluent is conforming to the regulatory standards.
viii).	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.	Rain Water Harvesting structures like recharge well, Contour Built Filters with check dams and Rain Water Harvesting Pond is created in Simhadri Plant and Township areas as suggested by Central Ground Water Board. They have suggested to monitoring ground water levels and quality at regular intervals which is being complied with religiously.
ix).	Fly ash shall be collected in dry form and its 100 % utilization shall be achieved within 9 years in accordance with the notification on Fly Ash Utilization SO 763 (E) dated 14th September, 1999 and its amendments made therein from time to time.	The fly ash generated from Simhadri STPS is being sent to silos and is being supplied to cement and other ash-based industries. The bottom ash that is collected as a slurry is sent to ash pond. Simhadri Ash utilization is 100% since 2017 , and the industry has achieved more than 100% utilization of fly ash. As on FY 2023-24 AU is 118 %
x).	Regular monitoring of groundwater including heavy metals shall be undertaken around the ash dyke and the project area to ascertain the change, if any, in the water quality due to leaching of contaminants from ash disposal area.	Monitoring of ground water including heavy metals is being done regularly. The points are selected with the help of Central Ground Water Board directions.
xi).	Noise level should be limited to 75 dB (A). For people working in high noise areas, protective devices such as ear plugs etc, shall be provided.	The ambient noise level at plant boundary is well within 75 dB (A). The workers in generator halls and other high noise area are provided with appropriate ear protection devices.
xii).	In lieu of the 25 acres of green belt area to be utilized for the project, green belt shall be developed in an area of 10 acres between coal handling plant and cooling towers of stage-II. Additionally, afforestation shall be carried out in an area of 75 acres outside the plant premises in consultation with the state forest department.	To replace trees that were cut for Stage II units, permission was sought from the Forest Department to afforest 75 acres of land in Totlakonda village instead and plantation in the allocated area is completed. Afforestation in 75 acres of land is completed at Thotlakonda area. Green belt in an area of 10 acres between coal handling plant and cooling towers of Stage-II, has been developed.
	Regular monitoring of the air quality	The AAQ monitoring is being done The

xiii).	shall be carried out in and around the power plant and records shall be maintained. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Six monthly reports shall be submitted to this Ministry.	locations have been finalized in consultation with SPCB. The monitoring results are submitted regularly as per stipulation. Half-yearly AAQ Monitoring Reports are being submitted regularly.
xiv).	For controlling fugitive dust, regular sprinkling of water in vulnerable areas of the plant shall be ensured.	Adequate number of dust suppression, dust extraction systems are provided in coal handling area including coal stockyard area and other dust prone areas for control of fugitive dust emissions. Water sprinklers are installed at dust prone sites in order to attenuate fugitive dust emission. Conflow dust suppression systems are provided at all transfer points. There was no stipulation regarding high pressure mist spray sprinkles at coal storage yard. Simhadri STPP has installed high pressure dust suppression water spray system (Rain guns) in coal yard with mechanical rotators which are working effectively to control the fugitive dust emission from coal yard. Simhadri STPP has installed High pressure water spray guns in all the Stage-I coal piles. 11 No's high-pressure rotating mist spray guns are in place each pile in both Stage-I&II. The total 88 no. of high-pressure rotating water spray rain guns are installed for 8 nos of Coal piles in Stage-I &II. In addition, for Dust Suppression, water nozzle spray System is in place for coal handling area including for Track Hopper and Wagon Tipplers Coal Stockyard water spray system is being used which comprises of fine spray nozzles. Adequate number of Dust suppression (DS) and Dust extraction (DE) systems are installed in coal handling area including coal handling area and other dust prone area for control of fugitive dust emissions. Water sprinklers were also installed at dust prone sites in order to attenuate fugitive dust emission. Dry fog dust suppression system is provided at all transfer points.
xv).	The project proponent should advertise in at least two local newspapers widely circulated in the	The information of Environmental Clearance was published in four news papers on 11.08.2007.

	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 letter is available with the State Pollution control Board/Committee and may also be seen at website of the Ministry of Environment and Forests at http:/www.envfor.nic.in	1. "Vaarta" on 11.08. 2007 in vernacular language. 2. "The Hindu" on 11.08.2007 in English. 3. "Eenaadu" on 11.08.2007 in vernacular language. 4. "Deccan Chronicle" on 11.08.2007 in English.
xvi).	A separate environment monitoring cell with suitable qualified staff should be set up for implementation of the stipulated environmental safeguards.	An Environment Management Group (EMG) has been set up at Simhadri TPP. Additional General Manager heads this group. EMG has sufficient trained manpower for environmental monitoring and other environmental related activities to ensure compliance with statutory requirements. It interacts regularly with the State Pollution Control Board. The Environmental laboratory at Simhadri STPP is adequately equipped for monitoring of ambient air quality, stack emission water/effluent quality, etc.
xvii).	Half yearly report on the status of implementation of the conditions and environmental safeguards should be submitted stipulated to the ministry, the Regional Office, CPBC and SPCB.	The monitoring parameters are also made available online on continuous basis linked to cloud server of APPCB/CPCB. The Half Yearly Compliance report which are being submitted to RO of MOEF&CC and APPCB/CPCB are uploaded on NTPC web site and can be seen by anyone. Also, the yearly environmental compliance and half yearly compliances are being submitted to statutory authorities on regular basis within stipulated time.
xviii).	Regional Office of the Ministry of Environment & forests located at Bangalore will monitor the implementation of the stipulated conditions. A completed set of documents including Environmental Impact Assessment Report and Environment Management Plan along with the additional information/ clarifications submitted subsequently to this ministry should be forwarded to	A complete set of documents including Environmental Impact Assessment Report and Environment Management Plan along with the additional information/clarifications submitted to MOEF&CC have been forwarded on 08.08.2007 to the Regional Office of MOEF&CC at Bangalore.

	the Regional Office for their use during monitoring.	
xix).	Separate funds should be allocated for implementation of environmental protection measures along with item-wise break-up. This cost should be included as part of the project cost. The funds earmarked for the environment protection measures should not be diverted for other purposes and year-wise expenditure should be reported to the Ministry.	Simhadri STPP has spent Rs.1088.03 crores for Stage-II units for environmental mitigation measures as per the Environmental compliance requirement. The requisite funds for environmental mitigation measures have been included in the project cost. Financial provision stipulated exclusively towards environmental mitigate measures which are being implemented in totality. The total funds earmarked for environmental protection has not been diverted for any other purpose.
xx).	Full cooperation should be extended to the Scientists / Officers from the Ministry / Regional Office of the ministry at Bangalore / the CPCB / the SPCB during monitoring of the project.	Full cooperation is being extended to the Scientists and officers of Regional Office of MOEF&CC by site.
4).	The Ministry reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the Ministry.	Noted
5).	The environmental clearance accorded shall be valid for a period of 5 years to the start of production operations by the power plant.	Noted
6).	In case of any deviation or alteration on the proposed project from that 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 incorporate additional environmental protection measures required, if any.	Noted
7).	The above stipulations shall be enforced among others under the Water (Prevention and Control Pollution) Act, 1947, the Air (Prevention and Control of Pollution) Act. 1981, the Environment (Protection) Act, 1986, the	Noted

	Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989, the public Liability Insurance Act, 1991 and its amendments.	

F. NO. J-13012/8/2009-IA.II(T) Dated 11.11.2020

1.	Details regarding change in source(location of the source, proposed quantity, distance from the power plant and mode of transportation), quality (ash, sulphur, moisture content, calorific value) shall be informed to the ministry and its concerned Regional Office. The quantity of coal transported from each source along with the mode of transportation shall be submitted as a part of EC Compliance report.	NTPC Simhadri sources its coal from Talcher, IB and Singreni mines with Ash percentage ratio between 35%-45%. Sulphur content 0.41% by mass.
2.	The applicable Flue gas emissions standards for Particulate matter , Oxides of Nitrogen and sulphur, Mercury shall be complied in ,line with the ministry notification S.O. 3305(E) dated 07.12.2015 and subsequent emissions. A progress of implementation and its compliance shall be submitted as part of compliance report.	Complied
3.	Ash content in the coal and coal transportation is governed by the Ministry notification vide S.O. 1561(E) dated 21.05.2020. As far as possible coal transportation should be done by rail/conveyor or other eco friendly modes. However road transportation is allowed on tarpaulin covered Trucks till the railway/conveyor belt infrastructure is made available.	Complied, Coal transportation is done through Railway
4.	Details regarding monthly generation, utilization and disposal of fly ash (including bottom ash) shall be submitted to the ministry and its regional Office.	Complied
5.	The 100% Fly ash utilization is to be achieved within 4 years in line with Fly ash notifications dated 14.09.1999, 27.08.2003, 03.11.2009, 25.01.2016 and amended time to time and extant regulation on Fly ash utilization.	Complied

End

COMPLIANCE STATUS
OF
ENVIRONMENTAL CLEARANCE
FOR
COASTAL REGULATION ZONE AREA

NTPC Limited
SIMHADRI SUPER THERMAL POWER STATION

ENVIRONMENT MANAGEMENT GROUP
NTPC-SIMHADRI (PO)
PIN: 531 020
Andhra Pradesh

September 2024

ENVIRONMENTAL CLEARENCE

Stage – II (2X500 MW)

Sl.NO.	CONDITIONS STIPULATED	Status of Implementation as on 30.09.2024
3).		
i).	No activities in CRZ area shall be taken up without obtaining requisite prior clearance under the provisions of the CRZ notification, 1991.	The CRZ area clearance was obtained from MOEF&CC, vide letter dated 25.06.2008.
ii).	Ash and sulphur content in the coal to be used as fuel shall not exceed 45% and 0.6% respectively.	Being complied.
iii).	Space provision shall be made for installation of Flue Gas De-sulphurisation (FGD) of requisite efficiency of removal of SO_2, if required at later stage.	FGD contract awarded, work in progress, expected completion by Dec 2022. As per MoEF notification 05.09.2022, extension for completion for FGD works is granted up to 31.12.2024
iv).	A bi-flue Stack of 275 m height with exit velocity of at least 22.2. M/sec shall be provided with continuous online monitoring system.	A bi-flue stack of 275 meters height has been constructed. Exit velocity of more than 22.2 m/sec is being maintained. Continuous online stack monitoring facility for measurement of Particulate, SO_2 and NO_x shall be provided.
v).	High efficiency Electrostatic Precipitators (ESPs) having efficiency of 99.9% shall be installed so as to ensure that particulate emission does not exceed 50 mg/Nm3.	The electrostatic precipitators are designed for a guaranteed efficiency of 99.93 % so as to maintain the particulate emission below 50 $mg/Nm^{3.}$
vi).	Closed cycle cooling system with natural draft cooling towers shall be provided.	A closed cycle circulating cooling water system using Natural Draft Cooling Towers (NDCT) has been provided.
vii).	Treated effluents conforming to the prescribed standards shall be re-circulated and reused within the plant. The discharge, if any, into the sea shall be at ambient temperature from the cold side.	Provisions were made to re circulate cooling water blow down and ash pond effluents. The cooling tower blow down is being used significantly for ash transportation. The effluent treatment system comprising of neutralization pit, oil and grease separator, sediment tank, cooling towers etc is provided. The effluents will be treated adequately and discharged through CMB. The treated effluent is conforming to the regulatory standards.
viii).	Rain water harvesting should be adopted. Central Ground Water Authority/Board shall be consulted for finalization of appropriate rain water	Rainwater Harvesting structures like recharge well, Contour Built Filters with check dams and Rain Water Harvesting Pond is created in Simhadri Plant and

	harvesting technology within a period of three months from the date of clearance.	Township areas as suggested by Central Ground Water Board. They have suggested to monitoring ground water levels and quality at regular intervals which is being complied with religiously.
ix).	Fly ash shall be collected in dry form and its 100 % utilization shall be achieved within 9 years in accordance with the notification on Fly Ash Utilization SO 763 (E) dated 14th September, 1999 and its amendments made therein from time to time.	Provision is made for collection of fly ash through DAES in dry form along with rail cum road loading facility to comply with the Gazette notification.
x).	Regular monitoring of groundwater including heavy metals shall be undertaken around the ash dyke and the project area to ascertain the change, if any, in the water quality due to leaching of contaminants from ash disposal area.	Monitoring of ground water including heavy metals are being done regularly. The points are selected with the help of Central Ground Water Board directions.
xi).	Noise level should be limited to 75 dB (A). For people working in high noise areas, protective devices such as ear plugs etc, shall be provided.	The ambient noise level at plant boundary is well within 75 dB (A). The workers in generator halls and other high noise area are provided with appropriate ear protection devices.
xii).	In lieu of the 25 acres of green belt area to be utilized for the project, green belt shall be developed in an area of 10 acres between coal handling plant and cooling towers of stage-II. Additionally, afforestation shall be carried out in an area of 75 acres outside the plant premises in consultation with the state forest department.	Afforestation in 75 acres of land is completed at Thotlakonda area. Green belt in an area of 10 acres between coal handling plant and cooling towers of Stage-II, has been developed.
xiii).	Regular monitoring of the air quality shall be carried out in and around the power plant and records shall be maintained. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Six monthly reports shall be submitted to this Ministry.	The AAQ monitoring is being done The locations have been finalized in consultation with SPCB. The monitoring results are submitted regularly as per stipulation. Half-yearly AAQ Monitoring Reports are being submitted regularly to APPCB
xiv).	For controlling fugitive dust, regular sprinkling of water in vulnerable areas of the plant shall be ensured.	Dust suppression systems are provided in coal handling area including coal stock yard for control of coal dust. Dry fog dust suppression system (Conflow) is provided at transfer points.

xv).	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 letter is available with the State Pollution control Board/Committee and may also be seen at website of the Ministry of Environment and Forests at http:/www.envfor.nic.in	The information of Environmental Clearance was published in four news papers on 11.08.2007. 1. "Vaarta" on 11.08. 2007 in vernacular language. 2. "The Hindu" on 11.08.2007 in English. 3. "Eeenaadu" on 11.08.2007 in vernacular language. 4. "Deccan Chronicle" on 11.08.2007 in English.
xvi).	A separate environment monitoring cell with suitable qualified staff should be set up for implementation of the stipulated environmental safeguards.	An Environment Management Group (EMG) has been set up at Simhadri TPP. Additional General Manager heads this group. EMG has sufficient trained manpower for environmental monitoring and other environmental related activities to ensure compliance with statutory requirements. It interacts regularly with the State Pollution Control Board. The Environmental laboratory at Simhadri STPP is adequately equipped for monitoring of ambient air quality, stack emission water/effluent quality, etc.
xvii).	Half yearly report on the status of implementation of the conditions and environmental safeguards should be submitted stipulated to the ministry, the Regional Office, CPBC and SPCB.	Half yearly reports on the status of implementation of the conditions and environmental safeguards are being submitted to MOEF&APPCB/regularly.
xviii).	Regional Office of the Ministry of Environment & forests located at Bangalore will monitor the implementation of the stipulated conditions. A completed set of documents including Environmental Impact Assessment Report and Environment Management Plan along with the additional information/ clarifications submitted subsequently to this ministry should be forwarded to the Regional Office for their use during monitoring.	A complete set of documents including Environmental Impact Assessment Report and Environment Management Plan along with the additional information/clarifications submitted to MOEF&CC have been forwarded on 08.08.2007 to the Regional Office of MOEF&CC at Bangalore.
xix).	Separate funds should be allocated for implementation of environmental protection measures along with item-	The requisite funds for environmental mitigation measures have been included in the project cost. Financial provision

	wise break-up. This cost should be included as part of the project cost. The funds earmarked for the environment protection measures should not be diverted for other purposes and year-wise expenditure should be reported to the Ministry.	stipulated exclusively towards environmental mitigate measures which are being implemented in totality.
xx).	Full cooperation should be extended to the Scientists / Officers from the Ministry / Regional Office of the ministry at Bangalore / the CPCB / the SPCB during monitoring of the project.	Full Cooperation is being extended to the statutory Officials.
4).	The Ministry reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the Ministry.	Noted
5).	The environmental clearance accorded shall be valid for a period of 5 years to the start of production operations by the power plant.	Noted
6).	In case of any deviation or alteration on the proposed project from that 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 incorporate additional environmental protection measures required, if any.	Noted
7).	The above stipulations shall be enforced among others under the Water (Prevention and Control Pollution) Act, 1947, the Air (Prevention and Control of Pollution) Act. 1981, the Environment (Protection) Act, 1986, the Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989, the public Liability Insurance Act, 1991 and its amendments.	Noted

(End)