Government of India
Ministry of Environment, Forest and Climate Change
IA Division
(Thermal Projects)
****

Minutes of AGENDA FOR 24th MEETING OF EXPERT APPRAISAL COMMITTEE (THERMAL SECTOR), SCHEDULED TO BE HELD DURING 29TH APRIL 2025 THROUGH PHYSICAL MODE. meeting Thermal Projects held from 29/04/2025 to 29/04/2025

Date: 07/05/2025

MoM ID: EC/MOM/EAC/685676/4/2025

Agenda ID: EC/AGENDA/EAC/685676/4/2025

Meeting Venue: Narmada Hall, MOEF&CC, New Delhi

Meeting Mode: Physical

Date & Time:

29/04/2025	10:30 AM	05:30 PM

1. Opening remarks

2. Confirmation of the minutes of previous meeting

3. Details of proposals considered by the committee

Day 1 -29/04/2025

3.1. Agenda Item No 1:

3.1.1. Details of the proposal

Gadarwara Super Thermal Power Project, Stage-II (2x800MW) by **NTPC LIMITED** located at **NARSINGHPUR,MADHYA PRADESH**			
Proposal For		Fresh EC	
Proposal No	**File No**	**Submission Date**	**Activity (Schedule Item)**
IA/MP/THE/532566/2025	J-13012/125/2009-IA.II(T)	17/04/2025	Thermal Power Plants (1(d))

3.1.2. Project Salient Features

24.1: **Proposed expansion of Gadarwara STPP by adding Stage- II: 1600 MW (2x800 MW) with UltraSuper Critical technology having Air Cooled Condenser system to the existing Stage- I: 1600 MW (2x800 MW) by M/s. NTPC Limited at Villages Gangai, Mehrakheda, Chorbarheta, Dongergaon and Kudari, Tehsil Gadarwara, District Narsinghpur, Madhya Pradesh– Environmental Clearance – reg.**

[Proposal No; IA/MP/THE/532566/2025] F.No. J-13012/125/2009-IA. II(T)]

24.1.1: M/s. NTPC Limited has made an online application vide proposal no. IA/MP/THE/532566/2025 dated 17.04.2025 along with copy of EIA/EMP report, Form (CAF, Part A, B & C) and Certified compliance report seeking Environment Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at item no. 1(d) – Thermal Power Plants under Category 'A' of the schedule of the EIA Notification, 2006 and appraised at Central Level. Further, the project does not attract the General Condition of the EIA Notification, 2006.

Name of the EIA consultant: M/s. Greencindia Consulting Private Limited [**NABET/EIA/2326/RA 0297**, valid up to 22/02/2026].

Details of the proposal, as ascertained from the proposal documents and as revealed from the discussions held during the meeting, are given as under:

24.1.2: The proposed project is for expansion of existing Gadarwara Super Thermal Power Project from 1600 MW (2x800 MW; Stage-I) to 3200 MW (Stage-II) with addition of 2 Units of 800 MW each (2x800 MW) based on Ultra Super Critical Technology & Air-Cooled Condenser (ACC), by M/s. NTPC Limited is located at Villages Gangai, Mehrakheda, Chorbarheta, Dongergaon and Kudari, Tehsil Gadarwara, District Narsinghpur, Madhya Pradesh.

24.1.3: The detail of the Terms of Reference (ToRs) obtained for the expansion project for undertaking EIA/EMP study is furnished as below:

Proposal No. with Date	Consideration	Details		ToR Validity
IA/MP/THE/465459/2024 dated 09.03.2024	12th EAC (Thermal) Meeting held on 29.08.2024.	Terms of Reference	30.09.2024	29.09.2028

24.1.4: The existing Stage I (2x800 MW) project was accorded Environmental Clearance vide letter. no. J-13012/125/2009-IA. II(T) dated 22/03/2013 from Ministry of Environment and Forest, New Delhi. The Environmental Clearance was amended vide letter dated 01.09.2017, 07.02.2019, 22.10.2019, 11.08.2020 & 24.12.2021. The project has been implemented and the unit is under operation. Madhya Pradesh Pollution Control Board (MPPCB), Bhopal accorded consent to Operate for the existing Stage-I (2x800 MW) units, vide Letter No. AW-60741 dated 22.07.2024. The validity of the CTO is up to 30.09.2026.

Details of existing project and its Environment Clearance & consent details along with its implementation status are given as below:

S. No	Facility	Issuing Authority	Details of Letter No.	Date of issuance
1.	2x800 MW (Stage-I) Gadarwara Super Th	MoEF&CC	J 13012/ 12	22.03.2013

S. No	Facility	Issuing Authority	Details of Letter No.	Date of issuance
	ermal Power Project near villages Gangai, Umaraiya, Mehrakheda, Chorbarheta, Dongergaon and Kudari, in Gadarwara Tehsil, Narsinghpur District, in Madhya Pradesh Environmental Clearance		5/2009-IA.III(T)	
2.	Amendment in Environmental Clearance for changing coal source from Talaipalli to Pakri Barwadih coal block and for temporary permission of transportation of coal by road	MoEF&CC		01.09.2017
3.	Amendment in Environmental Clearance for changing coal source from Pakri Barwadih coal block to NCL, WCL nd SECL mines and for extending temporary permission of transportation of coal by road	MoEF&CC		07.02.2019
4.	Amendment in Environmental Clearance for changing the CSR condition	MoEF&CC		11.08.2020
5.	Amendment in Environmental Clearance conditions related to Particulate matter and Radio activity & heavy metals in coal and fly ash	MoEF&CC		24.12.2021
6.	Consent to Operate (CTO) for Stage-I (2x800) under Water Act, Air Act	MPPCB	AW-60741	22.07.2024 valid up to 30.09.2026

Implementation status of the existing project:

			Implementation	Production
			Both the units have been commissioned and are under commercial operation	

24.1.5: Certified compliance report from Regional Office: The Status of compliance of earlier EC was obtained from Regional Office, MoEF&CC Bhopal, Madhya Pradesh vide letter no. 4-10/2013(Env) dated 28.06.2024 in the name of M/s. NTPC Limited for Gadarwara STPP Stage-I (2x800MW) project. The Action taken report regarding the partially/non-complied conditions submitted to Regional office, MoEF&CC, Bhopal, Madhya Pradesh vide letter no. GW/EMG/MoEF&CC/2024/02 dated 04.07.2024. PP vide email dated 20.02.2025 submitted Action Taken Report (ATR) w.r.t. conditions marked as partly complied. The ATR submitted by the PP was examined by the RO, Bhopal and submitted detailed analysis and review of ATR vide letter dated 21.04.2025 as mentioned below:

Sr. No.	EC Con-dition no.	EC Condition	Partly compliance reported by MoEF&CC RO, Bhopal vide letter dated 04.07.2024	Updated information/ Action taken as submitted by the PP vide email dated 20.02.2025	Remarks of MoEF&CC, RO Bhopal based on the ATR submitted by PP vide email dated 20.02.2025
A. Specific Condition					

Sr. No.	EC Con -dition no.	EC Condition	Partly compliance reported by MoEF&CC RO, Bhopal vide letter dated 04.07.2024	Updated information/ Action taken as submitted by the PP vide email dated 20.02.2025	Remarks of MoEF&CC, RO Bhopal based on the ATR submitted by PP vide email dated 20.02.2025
1.	(iii)	Bi-flue stack of 275 m height with flue gas velocity not less than 22 m/s shall be installed and provided with continuous online monitoring equipment's for SOx, NOx and PM2.5 PM10. Mercury emissions from stack may also be monitored on periodic basis.	It is observed that a bi-flue stack of 275 meters height has been constructed. Continuous online monitoring equipment for SOx, NOx and PM has been provided. The PP furnished the monitoring reports as monitored by M/s Mahabal Enviro Engineers Pvt. Ltd. It is noted that the flue gas velocity for boiler unit #1 is less than 22 m/s. Further the values of SOx and NOx at both unit bowlers are exceeding the norms. In view of the information furnished by the PP and as Per site observations noted above, the stipulated condition is considered as partially complied w.r.t. the said site visit. PARTLY COMPLIED	ESP for both the units is designed with following parameters: 1) Collection efficiency of 99.97%, 2) Flue gas velocity 22 m/sec. 3) Outlet emission $<$20mg/Nm^3. These design parameters have been ascertained by Performance test guarantee reports of both the Units. Latest Stack Monitoring report by third party has been submitted where flue gas velocity is more than 22m/s. SO2 emissions: Gadarwara STPS falls in category "C" under thermal plants categorization dated 23.06.2022 issued by MOEF & CC. As per Gazette notification dated 05.09.2022, the stipulated date to meet SO2 emission norms has been extended till 31st December 2026. However, FGD construction at Gadarwara is in advance stage of construction and Unit 1 is likely to be commissioned by September2024 and Unit 2 by March 2025, NOx emissions: For NOx control, tilting tangential boiler firing is provided with low NOx coal nozzles along with 'Closed coupled over fire dampers (CCOFA)' and 'Separated over fire dampers (SOFA)' control at Gadarwara. As per Gazette notification dated 05.09.2022, the cut-off date to meet emissions norms other than SO2 which includes NOx emission has been extended till 31st December 2024.	Perusal of the stack monitoring report through NABL accredited third party agency M/s Vardhan Enviro lab LLP during June, 2024, prior to certified report were furnished wherein flue gas velocity for boiler unit #1 is less than 22 m/s and the values of SOx and NOx at boiler unit #1 is exceeding the norms. Further, as furnished document w.r.t. NOx and SOx emission, as per MoEF&CC's Gazette notification dated 05.09.2022, the stipulated date to meet SO_2 emission norms has been extended till 31st December 2026 & emissions norms other than SO2 which includes NOx emission has been extended till 31st December 2024. However, neither documents supporting the project falls in category "C" under thermal plants categorization dated 23.06.2022 is not furnished nor NOx values are in permissible limit as per report furnished. Supporting Photographs of FGD construction at Gadarwara is not furnished. **In view of the updated information furnished by the project proponent, the stipulated condition remains same as partly complied.** **PARTLY COMPLIED**

Sr. No.	EC Con -dition no.	EC Condition	Partly compliance reported by MoEF&CC RO, Bhopal vide letter dated 04.07.2024	Updated information/ Action taken as submitted by the PP vide email dated 20.02.2025	Remarks of MoEF&CC, RO Bhopal based on the ATR submitted by PP vide email dated 20.02.2025
5.	(iv)	No mine void filling or filling up of low-lying areas with fly ash shall be undertaken.	During site visit, the PP informed that Abandoned stone query at Chawarpatha (approximately 50 km away from NTPC Gadarwara Plant) is being filled as per the latest guidelines and due permission of MPPCB. In view of the information furnished and as per site observations noted above, the stipulated condition is considered as complied subject to amendment in the stipulated condition. COMPLIED SUBJECT TO AMENDMENT IN THE CONDITION	As per point number 7 of the OM dated 28.08.2019 of MoEF&CC the amendment in EC is not required for mine void filling and it can be taken up with permission from SPCB. A copy of permissions obtained from MPPCB Dated 18.10.2022 and 18.12.2022 is submitted. A copy of MoEF&CC OM has also been submitted.	As per updated information furnished by PP, CTE and CTO obtained from MPPCB towards fly ash filling in abandoned quarry at Chawarpatha. As per MoEF&CC's OM dated 28.08.2019, para 7. xiii permission can be obtained from mine owner/SPCB for mine void filling. However, Compliance status of stipulations (i-xiii) at para 7 of MoEF&CC's OM dated 28.08.2019 is not furnished. **In view of the updated information furnished by the project proponent, the stipulated condition remains same as partly complied till submission of Compliance status towards stipulations (i-xiii) at para 7 of MoEF&CC's OM dated 28.08.2019.** **PARTLY COMPLIED**
B General Condition					
6.	(ix)	Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Unutilized fly ash shall be disposed off in the ash pond in the form of slurry form. Mercury and other heavy metals (As, Hg, Cr, Pb etc.) shall be monitored in the bottom ash as also in the effluents emanating from the existing ash pond. No ash shall be disposed	During site visit, it is noted that provision of dry collection of fly ash with storage facility (silos) has been made. Periodic monitoring for mercury & heavy metals in the bottom ash is being done by NABL accredited third party agency M/s VardanEnvirolab. The mercury & heavy metals in the bottom ash is found to be within the limit. The monitoring report of effluents emanating from the existing ash pond is yet to be furnished. The PP informed that abandoned stone query at	Ash pond effluent report is submitted. Combined effluent report is also submitted. As per point number, 7 of the OM dated 28.08.2019 of MoEF&CC the amendment in EC is not required for mine void filling and it can be taken up with permission from SPCB. A copy of MoEF&CC OM also submitted.	Perusal of the effluent monitoring report through NABL accredited third party agency M/s Vardhan Enviro lab LLP during June, 2024, prior to certified report were furnished and values are within permissible limit. Further, in light of MoEF&CC's OM dated 28.08.2019, para 7xiii, permission can be obtained from mine owner/SPCB for mine void filling. The copy of CTE and CTO obtained from MPPCB towards fly ash filling in abandoned quarry at Chawarpatha is furnished. However, Compliance s

Sr. No.	EC Con -dition no.	EC Condition	Partly compliance reported by MoEF&CC RO, Bhopal vide letter dated 04.07.2024	Updated information/ Action taken as submitted by the PP vide email dated 20.02.2025	Remarks of MoEF&CC, RO Bhopal based on the ATR submitted by PP vide email dated 20.02.2025
		off in low lying area.	Chawarpatha (approximately 50 km away from NTPC Gadarwara Plant) is being filled as per the latest guidelines and due permission of MPPCB. However, the PP should take the amendment in the stipulated condition. In view of the information furnished and as per site observations noted above, the overall compliance of stipulated condition is considered as partly complied w.r.t. the said site visit. PARTLY COMPLIED		tatus of stipulations (i-xiii) at para 7 of MoEF&CC's OM dated 28.08.2019 is not furnished. **In view of the updated information furnished by the project proponent, the stipulated condition remains same as partly complied.** **PARTLY COMPLIED**
7.	(xv)	Regular monitoring of ground water level shall be carried out by establishing a network of existing wells and constructing new piezometers. Monitoring around the ash pond area shall be carried out particularly for heavy metals (Hg, Cr, As, Pb) and records maintained and submitted to the Regional Office of this Ministry. The data so obtained should be compared with the baseline data so as to ensure that the ground water quality is not adversely affected due to the project.	It is noted that piezometers are installed for regular monitoring of ground water level. The copy of monitoring report is furnished during the visit. Monitoring of heavy metals and water quality monitoring is being done by NABL accredited third party agency M/s Vardan Enviro lab. However, the ground water parameters like TDS, Nitrate & Calcium at ash dyke area are exceeding the acceptable limit. In view of the information furnished and as per site observations noted above, the stipulated condition is considered as partly complied w.r.t. the said site visit. PARTLY COMPLIED	Latest third party monitoring report submitted. All the parameters including TDS, Nitrate and Calcium are within the acceptable limits.	Perusal of the ground water monitoring report in area bore well approx. 500 mt. south of ash dyke through NABL accredited third party agency M/s Vardhan Enviro lab LLP during 01.07.2024, prior to certified report were furnished and values are found within permissible limit. **In view of the updated information furnished by the project proponent, the stipulated condition is considered as being complied.** **BEING COMPLIED**
8.	(xxvii)	Noise levels emanating from turbines shall be li	Necessary PPE equipment are being provided to the workers. Perio	Third party monitoring report of noise level near turbine is submitted.	Perusal of nearby turbine area unit-1 noise levels monitoring report thro

Sr. No.	EC Con -dition no.	EC Condition	Partly compliance reported by MoEF&CC RO, Bhopal vide letter dated 04.07.2024	Updated information/ Action taken as submitted by the PP vide email dated 20.02.2025	Remarks of MoEF&CC, RO Bhopal based on the ATR submitted by PP vide email dated 20.02.2025
		mited to 85 dB (A) from source. For people working in the high noise area, requisite PPEs shall be provided. Workers engaged in noisy areas such as turbine area, air compressors etc. shall be periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non-noisy/less noisy areas.	dic medical examination is being carried out. The noise monitoring reports as monitored at 4 locations were furnished by the PP. However, the PP should also monitor the noise levels through third party NABL accredited agency near turbine and submit the report. In view of the information furnished and as per site observations noted above, the stipulated condition is considered as partially complied w.r.t. the said site visit. PARTLY COMPLIED		ugh NABL accredited third party agency M/s Vardhan Enviro lab LLP during 06.07.2024 reveals that the values are within permissible limit. **In view of the updated information furnished by the project proponent, the stipulated condition is considered as being complied.** **BEING COMPLIED**
9.	(xxx)	Green Belt consisting of 3 tiers of plantations of native species around plant not less than 100m width shall be raised (except in areas not feasible). The density of trees shall not less than 2500per ha with survival rate not less than 80%.	It is noted that greenbelt is being developed by the PP. The PP stated that around 163 acres of land has already been covered under green belt development. However, at some places the density of green belt may be increased. The green belt area also needs to be increased. In view of the information furnished and as per site observations noted above, the stipulated condition is considered as partly complied w.r.t. the said site visit. PARTLY COMPLIED	As per EC for Gadarwara STPP Stage-I (2x800MW) F.no. J13012/125/2009-IA.II (T) dated 22.03.2013, area of 150 acres (60.70 Ha.) is required to be developed as greenbelt area. NTPC Gadarwara has already completed Green Belt/ Plantation on 163 Acres (65.97 Ha.) of area inside plant premises and 101.17 Ha. Outside the plant premises through Madhya Pradesh Rajya Van Vikas Nigam Limited (MPRVVNL). Hence, total green belt/ Plantation area developed inside and outside NTPC Gadarwara premises is 167.00 Ha. Further, 120.60 Ha. of land area has been identified inside and outside plant premises for development of Greenbelt/Plantation under Stage-II. To increase the density of the greenbelt, Gap filling plantation shall be undertaken as per action plan submitted. Total greenbelt/plantation area including existi	As per the updated information furnished by PP, a time bound action plan towards increasing the density of the greenbelt is proposed. **In view of the updated information furnished by the project proponent, the stipulated condition is considered as agreed to comply.** **AGREED TO COMPLY**

Sr. No.	EC Con -dition no.	EC Condition	Partly compliance reported by MoEF&CC RO, Bhopal vide letter dated 04.07.2024	Updated information/ Action taken as submitted by the PP vide email dated 20.02.2025	Remarks of MoEF&CC, RO Bhopal based on the ATR submitted by PP vide email dated 20.02.2025
				ng (167.14 Ha.) and proposed (120.60 Ha.) is 287.74 Ha. Plantation carried out through MPRVVNL is physically verified every year to ascertain survival rate of 90%. Further, NTPC has applied for carrying out Afforestation on 100 Ha. of parcel lands in Narsinghpur District under the flagship 'Green Credit Program' of MoEF&CC. The proposal is in advanced stage of approval	
10.	(xxxvi)	The project proponent shall advertise in at least two local new papers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned within seven days from the date of this clearance letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the State Pollution Control Board/Committee and may seen at Website of the Ministry of Environment and Forests at http://envfor.nic.in.	The PP stated that information of Environmental Clearance was published in Two newspapers widely circulated in the region. The copy of advertisement in "DainikBhaskar" dated 27.03.2013 is furnished by the PP. The copy of advertisement as published in "NayiDuniya" is yet to be furnished. In view of the information furnished and as per site observations noted above, the stipulated condition is considered as partly complied w.r.t. the said site visit. **PARTLY COMPLIED**	Advertisement published in "NayiDuniya" is not available since there was a massive fire in the construction office in 2018 and many such official documents were burnt. However, being taken up with "NayiDuniya" head office if the same is available in their archive,	As per updated information furnished by PP, the copy of advertisement of EC as published in "Nayi Duniya" is not furnished as yet, citing loss of the documents in an incident of fire at the construction office in 2018. **In view of the updated information furnished by the project proponent, the stipulated condition is considered as partly complied till submission of documentary proof for the claim.** **PARTLY COMPLIED**

In addition to the above, Status of installation of Flue Gas Desulphurization is furnished as below as per the MoEF&CC Notification dated 05/09/2022:

24.1.6: Environmental site settings:

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td>1.</td><td>Total land</td><td>910.706 Ha
[Private Land: 746.536 Ha; Govt. Land: 164.170 Ha]</td><td>Land Use: The land to be used for the proposed expansion is within existing TPP premises which is already under the possession of project proponent.</td></tr>
<tr><td>2.</td><td>Land use break up</td><td>
<table>
<tr><th>S.N.</th><th>Description</th><th>Area Utilised for Stage-I, Ha.</th><th>Area Proposed for Stage-II, Ha.</th><th>Total Area, Ha. (St-I & St-II)</th></tr>
<tr><td>A</td><td>Main Plant</td><td>127.990</td><td>81.820</td><td>209.81</td></tr>
<tr><td>B</td><td>Ash Pond</td><td>157.020</td><td>99.000</td><td>256.02</td></tr>
<tr><td>C</td><td>Greenbelt area within main plant</td><td>7.740</td><td>0.000</td><td>7.740</td></tr>
<tr><td>D</td><td>Total area considered for Greenbelt calculation (A+B+C)</td><td>292.750</td><td>180.820</td><td>473.570</td></tr>
<tr><td>E</td><td>Greenbelt area adjacent to main plant (on NTPC Land)</td><td>58.628</td><td>90.412</td><td>149.040</td></tr>
<tr><td>F</td><td colspan="3">Total Greenbelt Area Provision (C+E) (7.740+149.040=156.780 Ha ~33.1% of 473.570 Ha.)</td><td>156.780</td></tr>
<tr><td>G</td><td>Others- (Railway Corridor/ Siding/ Misc. areas i.e., Outside Roads, Reservoir, Township, misc. facilities etc.)</td><td>213.950</td><td>18.000</td><td>231.950</td></tr>
<tr><td>H</td><td>Total Land Acquired (D+E+G)</td><td>565.328</td><td>289.232</td><td>854.560</td></tr>
<tr><td>I</td><td>ROU Land for Pipeline (Ownership with Farmers)</td><td>56.146</td><td></td><td>56.146</td></tr>
<tr><td>J</td><td>Total Land with ROU (H+I)</td><td>621.474</td><td>289.232</td><td>910.706</td></tr>
</table>
</td><td>Out of total project area of 910.706 Ha, an area of 56.146 Ha has not been acquired but the land is under Right of Use (ROU) or for makeup water pipeline.
*Existing plantation for Stage I has been developed on 163.9 Acre (66.367 ha) in compliance to Stage-I EC requirement of 150 Acres(60.70 Ha). Further 90.412 Ha. has been identified for development of 33% area as green belt considering total area of main plant and ash dyke (473.570 Ha.).</td></tr>
<tr><td>3.</td><td>Land acquisition details as per MoEF&CC O.M. dated 07/10/2014 & 20/02/2025.</td><td>The proposed expansion is within the plant premises area. The land is already under the possession with NTPC Limited. No additional land acquisition is envisaged for the proposed expansion project.</td><td></td></tr>
</table>

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td>4.</td><td>Existence of habitation & involvement of R&R, if any.</td><td>
Project site: No land acquisition required for the proposed expansion project
Study Area:
<u>Habitation</u>
Within 2 km radius from the project site, 12 villages are located as per the following details:
<table>
<tr><th>Habitation/Village Name</th><th>Distance (km)</th><th>Direction</th></tr>
<tr><td>Chhena Kachhar</td><td>1.85</td><td>SW</td></tr>
<tr><td>Kudari</td><td>0.45</td><td>SE</td></tr>
<tr><td>Dogragaon (Dongargaon)</td><td>0.65</td><td>NE</td></tr>
<tr><td>Chor Barhata</td><td>0.08</td><td>NE</td></tr>
<tr><td>Gagai (Gangai)</td><td>1.2</td><td>SW</td></tr>
<tr><td>Umariya</td><td>0.95</td><td>NW</td></tr>
<tr><td>Mehra Kheda</td><td>0.5</td><td>N</td></tr>
<tr><td>Ghat Pipariya</td><td>1.59</td><td>N</td></tr>
<tr><td>Manakwara</td><td>1.51</td><td>NE</td></tr>
<tr><td>Ratanpura</td><td>1.1</td><td>NE</td></tr>
<tr><td>Tekapar</td><td>1.86</td><td>NE</td></tr>
<tr><td>Kajrota</td><td>1.51</td><td>N</td></tr>
</table>
• Within 10 km radius from the project site, a total of 125 villages are present, as per the Survey of India Toposheet and the Census of India 2011 data.
<u>Schools</u>
<table>
<tr><th>School</th><th>Distance (km)</th><th>Direction</th></tr>
<tr><td>Bal Bharti public school (BBPS)</td><td>1.57</td><td>NE</td></tr>
<tr><td>Chor Barhata</td><td>1.58</td><td>NE</td></tr>
<tr><td>Kodari</td><td>2.67</td><td>SE</td></tr>
<tr><td>Dongargaon</td><td>2.46</td><td>NE</td></tr>
<tr><td>Gangai</td><td>1.62</td><td>SW</td></tr>
<tr><td>Chena Kachar</td><td>2.89</td><td>SW</td></tr>
<tr><td>Umariya</td><td>3.6</td><td>NW</td></tr>
<tr><td>Mehra Kheda</td><td>1.93</td><td>N</td></tr>
<tr><td>Ghat pipariya</td><td>3.0</td><td>N</td></tr>
<tr><td>Manakwara</td><td>5.83</td><td>NE</td></tr>
<tr><td>Tekapar</td><td>1.86</td><td>NE</td></tr>
<tr><td>Kajrota</td><td>1.51</td><td>N</td></tr>
</table>
<u>Health Centre</u>
<table>
<tr><th>Hospital</th><th>Distance (km)</th><th>Direction</th></tr>
<tr><td>Jeevan Jyoti Hospital</td><td>1.12</td><td>NE</td></tr>
<tr><td>Gangai</td><td>1.62</td><td>SW</td></tr>
</table>
Some of the Protection Measures to be adopted are listed below:
Control of Air Pollution:
Control of Water Pollution:
Health & Sanitation:
Infrastructure Development: -
</td><td>R&R is not required as land is already under possession of the proponent.</td></tr>
<tr><td>5.</td><td>Latitude and Longitude of all corners of the project site.</td><td>
A. Plant site:
B.
<table>
<tr><th>Point</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>A</td><td>22°52'34.18"N</td><td>78°50'30.68"E</td></tr>
<tr><td>B</td><td>22°51'24.50"N</td><td>78°50'31.31"E</td></tr>
<tr><td>C</td><td>22°51'10.92"N</td><td>78°51'16.39"E</td></tr>
<tr><td>D</td><td>22°51'10.47"N</td><td>78°52'26.94"E</td></tr>
</table>
</td><td></td></tr>
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<table>
<tr><th>S. No.</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td>E</td><td>22°51'39.23"N</td><td>78°52'26.57"E</td></tr>
<tr><td>F</td><td>22°52'0.26"N</td><td>78°52'56.87"E</td></tr>
<tr><td>G</td><td>22°52'01.01"N</td><td>78°51'47.60"E</td></tr>
<tr><td>H</td><td>22°52'24.12"N</td><td>78°51'46.77"E</td></tr>
<tr><td>I</td><td>22°52'40.47"N</td><td>78°52'53.26"E</td></tr>
<tr><td>J</td><td>22°53'17.34"N</td><td>78°53'15.79"E</td></tr>
<tr><td>K</td><td>22°54'16.82"N</td><td>78°52'12.34"E</td></tr>
<tr><td>L</td><td>22°54'46.58"N</td><td>78°52'57.37"E</td></tr>
<tr><td>M</td><td>22°54'40.57"N</td><td>78°51'20.65"E</td></tr>
<tr><td>N</td><td>22°54'16.85"N</td><td>78°51'47.74"E</td></tr>
<tr><td>O</td><td>22°53'17.97"N</td><td>78°53'14.20"E</td></tr>
<tr><td>P</td><td>22°52'44.46"N</td><td>78°52'55.55"E</td></tr>
<tr><td>Q</td><td>22°52'40.82"N</td><td>78°52'7.70"E</td></tr>
<tr><td>R</td><td>22°52'37.72"N</td><td>78°51'44.13"E</td></tr>
<tr><td>S</td><td>22°52'29.48"N</td><td>78°51'1.59"E</td></tr>
</table>
C. Ash Pond: Existing:
D.
<table>
<tr><th>Point</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>A</td><td>22° 52’ 34” (N)</td><td>78° 50’ 30” (E)</td></tr>
<tr><td>B</td><td>22° 52’ 27” (N)</td><td>78° 51’ 23” (E)</td></tr>
<tr><td>C</td><td>22° 52’ 00” (N)</td><td>78° 51’ 20” (E)</td></tr>
<tr><td>D</td><td>22° 52’ 00” (N)</td><td>78° 50’ 32” (E)</td></tr>
</table>
E. Ash Pond: Proposed:
F.
<table>
<tr><th>Point</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>A</td><td>22° 51’ 59” N</td><td>78° 50’ 31” E</td></tr>
<tr><td>B</td><td>22° 51’ 37” N</td><td>78° 50’ 31” E</td></tr>
<tr><td>C</td><td>22° 51’ 37” N</td><td>78° 51’ 21” E</td></tr>
<tr><td>D</td><td>22° 52’ 00” N</td><td>78° 51’ 21” E</td></tr>
</table>
</td><td></td></tr>
<tr><td>6.</td><td>Elevation of the project site</td><td>378 m above mean sea level</td><td>---</td></tr>
<tr><td>7.</td><td>Involvement of Forest land if any</td><td>Status of stage I Forest Clearance: Not Applicable
Area of the forest land involved: NIL
There is no Forest Land involved in the proposed expansion Project.</td><td>---</td></tr>
<tr><td>8.</td><td>Water body (Rivers, Lakes, Pond, Nala, Natural Drainage, Canal etc.) exists within the project site as well as study area</td><td>Project site: Gadarwara STPP Stage-II (2x800MW)
Study area: 10 km radius from the project area.
<table>
<tr><th>S.N.</th><th>Name</th><th>Distance in Km</th><th>Direction</th></tr>
<tr><td colspan="4">Water Bodies</td></tr>
<tr><td>1</td><td>Shakkar River</td><td>0.60</td><td>NE-N</td></tr>
<tr><td>2</td><td>Sitarewa River</td><td>0.90</td><td>SW-N</td></tr>
<tr><td>3</td><td>Sukha Nadi</td><td>2.30</td><td>SW</td></tr>
<tr><td>4</td><td>Sapan Nala</td><td>5.00</td><td>SE</td></tr>
<tr><td>5</td><td>Lendia Nadi</td><td>7.60</td><td>N</td></tr>
</table>
Inference of the HFL data:
Highest HFL of Shakkar river recorded at Gadarwara monitoring point is 332.47m (MSL) while the Gadarwara S</td><td>Water Resource Department vide letter dated 15/10/2024 has given certificate regarding HFL level of Shakkar river at Gadarwara which is 332.47m recorded on 08.09.1999.</td></tr>
</table>

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td></td><td></td><td>TPP is at an elevation of approx. 378m. The project site i s located at substantial higher elevation compared to the HFL of the river.</td><td></td></tr>
<tr><td>9.</td><td>Existence of ES Z/ ESA/ nationa l park/ wildlife sanctuary/ biosp here reserve/ tig er reserve/ elep hant reserve etc. if any within th e study area.</td><td>No Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ bio sphere reserve/ tiger reserve/ elephant reserve etc. within the stud y area of 10 km.
List of Reserved and Protected Forests in study area:
<table>
<tr><th>S.N.</th><th>Name</th><th>Distance i n Km</th><th>Direction</th></tr>
<tr><td>1</td><td>Chhawargaon Reserve Forest</td><td>4.33</td><td>S</td></tr>
<tr><td>2</td><td>Chaugan RF</td><td>8.90</td><td>SSE</td></tr>
<tr><td>3</td><td>Bargaon PF</td><td>9.80</td><td>S</td></tr>
<tr><td>4</td><td>Prempur Reserve Forest</td><td>8.94</td><td>SSE</td></tr>
<tr><td>5</td><td>Belkhedi Reserve Forest</td><td>6.72</td><td>SE</td></tr>
<tr><td>6</td><td>Bijanpur Reserve Forest</td><td>8.78</td><td>SE</td></tr>
</table></td><td>Certification fr om Forest Dep t. has been sub mitted.</td></tr>
<tr><td>10.</td><td>Archaeological sites monuments / historical temples etc.</td><td>No Archaeological sites within 10 km of study area</td><td>--</td></tr>
<tr><td>11.</td><td>Facility envisag ed in CRZ area (Only for coasta l power plant)</td><td>Not Applicable</td><td>--</td></tr>
<tr><td>12.</td><td>Involvement of Critically Pollut ed Area/Severel y Polluted area as per 2018 CE PI score.</td><td>No Involvement of Critically Polluted Area/Severely Polluted are a.</td><td>--</td></tr>
</table>

24.1.7: The unit configuration and capacity of existing and proposed project is given as below:

				Technology
	Stage-I 2 X 800 MW (1600 MW)	Stage-II 2X800 MW (1600 MW)		

24.1.8: The details of the fuel (coal/gas/LDO) requirement for the proposed project / expansion cum proposed project along with its source and mode of transportation is given as below:

Coal Transportation of existing plant is through Indian Railway from 27.11.2019. Coal transportation for proposed expansion is also envisaged through Indian Railway. The coal unloading shall be done through Wagon Tippler/ Track Hopper.

Details	**Fuel require ment**	**Source**	**Distance f rom site**	**Mode of Transportation**	**Coal characteristics**	**Linkage document**

	(METRIC TONNES PER ANNUM)		(Kms)		(Worst case scenario)	
Existing TPP (2x800 MW)	7.56 Million TPA at 90% PLF considering 3704 kcal/kg GCV	SECL	500-650	Rail	Ash – 43(%) Sulphur-0.55 (%) Moisture -14% GCV - 3200Kcal/Kg	Fuel (Coal) supply agreement is available with WCL, NCL, SECL.
		NCL	540	Rail		
		WCL	470-640	Rail		
Proposed TPP	6.10 Million TPA at 90% PLF considering 4400 Kcal/kg	SECL	500-650	Rail	Ash: 29-43 (%) Sulphur: 0.3-0.55(%) GCV:3200-4300 Kcal/Kg	Coal supply shall be tentatively from SECL MCL. CIL letter has been submitted.
		MCL	740-1000	Rail		

24.1.9: Water requirement: Existing Water requirement is 1,12,200 m^3/day, which is obtained from Narmada River and permission for the same has been obtained from Water Resources Department, Govt. of Madhya Pradesh, vide letter dated 19.05.2008 (Water Allocation was given for 125 CUSECS ~ 111.64 MCM which was subsequently reduced to 56 MCM ~ 1,53,425 m^3/day vide letter dated 09.09.2021). The water requirement for the proposed project is estimated as 48,000 m^3/day, out of which 41,224 m^3/day of fresh water requirement will be obtained from the surplus allocation/permission for drawl available under Stage-I and the remaining requirement of 6,776 m^3/day will be met from the additional water allocation/permission for drawl of 11 MCM (30,136 m^3/day) surface water for Stage-II obtained from Water Resources Department, Govt. of Madhya Pradesh, vide letter dated 19.02.2024. The water will be transported to the plant site through pipeline. The Specific water consumption for existing Stage-I and proposed Stage-II project shall be less than the prescribed norm of 3.0 m^3/MWhr.

24.1.10: Power requirement: Existing power requirement of 100MW is obtained from Gadarwara STPP Stage-I. The power requirement for the proposed project is estimated as 124 MW which will be obtained from the own generation.

24.1.11: Baseline Environment Studies

Period	From March 2024 to May 2024	Additional study (if any)
AAQ parameters at 10 locations (min. & max.)	• PM_{10} = 36.10 & 91.30 µg/m^3 • $PM_{2.5}$ = 14.56 & 32.33 µg/m^3 • SO_2 = 5.79 & 13.18 µg/m^3 • NO_x = 10.71 & 18.70 µg/m^3 • CO = 0.20 & 1.10 mg/m3	---
Incremental GLC Level	**Existing and Proposed Projects** • PM_{10} = 1.76 µg/m^3 (Level at 1.10 km in SSE direction) • $PM_{2.5}$= 0.85 µg/m^3 (Level at 1.10 km in SSE direction) • SO_2 = 6.66 µg/m^3 (Level at 1.10 km in SSE Direction) • NO_2 = 5.87 µg/m^3 (Level at 1.10 km in SSE direction) (@100 mg/Nm^3) • NO_2 = 17.6 µg/m^3 (Level at 1.10 km in SSE direction) (@300 µg/m^3) **Pollution control measures**:	---

<table>
<tr><th>Period</th><th>From March 2024 to May 2024</th><th>Additional s tudy (if any)</th></tr>
<tr><td>Ground water q uality at 6 locat ions</td><td>pH: 7.10 to 7.84, Total Hardness: 184.9 to 276.2 mg/l, Chlorides: 10.4 to 24.15 mg/l, Fluoride: 0.22 to 0.38 mg/l.
Heavy Metal
Iron: 0.14 to 0.27 mg/l; Zinc (Zn), mg/l: 0.44-0.88, Arsenic (As), mg/l: BDL, C admium (Cd), mg/l: BDL, Chromium (Cr^{+6}): BDL, Copper (Cu), mg/l: BDL, Lead (Pb), mg/l: BDL, Selenium (Se), mg/l : BDL, Mercury (Hg), mg/l: BDL</td><td>---</td></tr>
<tr><td>Surface water q uality at 6 locat ions</td><td>pH: 6.99 to 7.66; DO: 5.20 to 5.80 mg/l and BOD from 5.0 to 8.00 mg/l. COD from 15.0 to 32.0 mg/l</td><td></td></tr>
<tr><td>Effluent genera tion details and its treatment</td><td>Effluent generation from TPP (Stage-I): 4,283 m^3/Hr
Effluent requiring Treatment: 2255 m^3/hr
Treatment plant Capacity (Stage-I): 4,100 m^3/Hr
Effluent generation from TPP (Stage-II): 1,025 m^3/Hr
Effluent requiring Treatment: 205 m^3/hr
Treatment plant Capacity (Stage-II): 385 m^3/Hr
Mode of treatment & reuse: Neutralization for DM plant regeneration wastew ater, Settling pit for Coal Settling, Oil Removal, Lamella clarifier/Tube settler. Treated Wastewater will be utilized in Aux. Cooling makeup, dust suppression, ash handling, horticulture etc. within the plant to achieve Zero Liquid discharge (ZLD).
Rest quantity of effluents like cooling tower blowdown, Clarifier drainages etc. will be reused recycled mainly for Ash Handling and fugitive dust control purp ose within the plant premises maintaining Zero Liquid discharge (ZLD).
Domestic wastewater generation (Stage-I): 1,200 KLD
Treatment plant Capacity (Stage-I): 1,200 KLD
Domestic wastewater generation (Stage-II): 75 KLD
Treatment plant Capacity (STP): 75 KLD
Mode of Treatment & Reuse: Domestic wastewater will be treated through S ewage Treatment Plant based on MBBR Technology. Treated water will be util ized for Horticulture, plantation and greenbelt development etc.</td><td></td></tr>
<tr><td>Noise levels (D ay and Night)</td><td>50.0 dB(A) to 54.6 dB(A) for the daytime and 41.7 dB(A) to 44.8 dB(A) for th e Nighttime.</td><td></td></tr>
<tr><td>Traffic assessm ent study findin gs</td><td>• Traffic study has been conducted at SH-22 which is approximately 18.7 km fr om the plant site.
• Transportation of raw material (coal) will be done 100 % by rail.
• Coal is being transported by rail for the existing units and same is envisaged f or coal transportation for the expansion as well. However, for existing units, ash transportation is being carried out via road. During the traffic assessmen t, the scenario of ash, gypsum and other materials being transported via road is considered for PCU calculations, due to which the additional PCU/day due to project expansion has been predicted in traffic impact assessment.
• Existing PCU is 2439.5(T1), 2646(T2), 5658(T3) PCU/hr on SH22 and existi ng level of service (LOS) is:
<table>
<tr><th>Road</th><th>V (Volume PCU/hr.)</th><th>C (Capacity PCU/hr.)</th><th>Existing V/C Ratio</th><th>LOS</th></tr>
<tr><td>T1: Road Junction near 220KV substat ion, Chichi</td><td>2439.5</td><td>15000</td><td>0.16</td><td>A</td></tr>
</table></td><td></td></tr>
</table>

<table>
<tr><th>Period</th><th>From March 2024 to May 2024</th><th>Additional study (if any)</th></tr>
<tr><td></td><td>
<table>
<tr><td>T2: SH 22, Panari</td><td>2646</td><td>15000</td><td>0.17</td><td>A</td></tr>
<tr><td>T3: SH 22, Gadarwara</td><td>5658</td><td>15000</td><td>0.37</td><td>B</td></tr>
</table>
• PCU load after proposed project will be 2561.48(T1), 2778.3(T2), 6054.06(T3) PCU/hr (Existing) + 285(T1), 231(T2), 574(T3) (Additional) PCU/hr and level of service (LOS) will be:
<table>
<tr><th>Road</th><th>V (Volume PCU/hr.)</th><th>C (Capacity PCU/hr.)</th><th>Proposed V/C Ratio</th><th>LOS</th></tr>
<tr><td>T1: Road Junction near 220KV substation, Chichi</td><td>2846.48</td><td>15000</td><td>0.19</td><td>A</td></tr>
<tr><td>T2: SH 22, Panari</td><td>3009.3</td><td>15000</td><td>0.20</td><td>A</td></tr>
<tr><td>T3: SH 22, Gadarwara</td><td>6628.06</td><td>15000</td><td>0.44</td><td>C</td></tr>
</table>
Due to increase in economic activities, the existing vehicular movements is estimated to rise by 5% at T1 & T2 and by 7% at T3 with the proposed expansion. The increase in traffic load is envisaged due to increase in transportation of Ash, Limestone & Gypsum, water treatment chemicals, auxiliary fuel, and increased employee movement (both contractual and permanent) and economic activities in the area due to secondary employment generation.
* Note: Capacity as per IRC-64:1990 Guidelines for capacity for roads.
Conclusion: The level of service (LOS) will be A(T1), A(T2) & C(T3) after including additional traffic due to the proposed project.
</td><td></td></tr>
<tr><td>Soil Quality at 10 Locations</td><td>Bulk density: 1.0 to 1.80 gm/cm^3; pH range 7.01 to 7.65; Electrical Conductivity (EC): 520 to 880 µmhos/cm; calcium content: 5.6 to 24.6 meq/100g; potassium: 177.2 to 229.4 mg/kg; Nitrogen: 105 to 340 mg/kg; Phosphorous: 45 to 74 mg/kg; Cation Exchange Capacity (CEC): 11.7 to 17.8 meq/100gm; Magnesium: 0.9 to 3.94 meq/100gm;; Organic Matter: 0.98 to 1.46 %.</td><td></td></tr>
<tr><td>Flora & Fauna</td><td>
List of schedules I fauna and endangered Flora if any.: Yes
If yes, status of site-specific wildlife conservation plan.
<table>
<tr><th rowspan="2">S. N.</th><th rowspan="2">Scientific Name</th><th rowspan="2">Core Zone</th><th rowspan="2">Buffer Zone</th><th rowspan="2">Common Name</th><th colspan="2">Status</th></tr>
<tr><th>WPA Amendment 2022</th><th>IUCN</th></tr>
<tr><td colspan="7">Mammals</td></tr>
<tr><td>1</td><td>Antilope cervicarpa</td><td>-</td><td>+</td><td>Black Buck</td><td>Schedule I</td><td>LC</td></tr>
<tr><td>2</td><td>Canis aureus</td><td>-</td><td>+</td><td>Jackal</td><td>Schedule I</td><td>LC</td></tr>
<tr><td>3</td><td>Herpestes edwardsii</td><td>-</td><td>+</td><td>Indian Grey Mongoose</td><td>Schedule I</td><td>LC</td></tr>
<tr><td colspan="7">Reptiles & Amphibians</td></tr>
<tr><td>4</td><td>Python molurus</td><td>-</td><td>+</td><td>Indian Python</td><td>Schedule I</td><td>NT</td></tr>
<tr><td>5</td><td>Naja naja</td><td>-</td><td>+</td><td>Indian Cobra</td><td>Schedule I</td><td>LC</td></tr>
<tr><td colspan="7">Birds</td></tr>
<tr><td>6</td><td>Bubo bubo</td><td>-</td><td>+</td><td>Eurasian Eagle Owl</td><td>Schedule I</td><td>LC</td></tr>
<tr><td>7</td><td>Pavo cristatus</td><td>-</td><td>+</td><td>Peafowl</td><td>Schedule I</td><td>LC</td></tr>
</table>
</td><td>Wildlife and Biodiversity Study and conservation plan prepared by M/s. Greencindia Consulting Pvt. Ltd.- Ghaziabad</td></tr>
</table>

<table>
<tr><th>Period</th><th>From March 2024 to May 2024</th><th>Additional study (if any)</th></tr>
<tr><td></td><td>
<table>
<tr><td>8</td><td>Tachy spizab adia</td><td>-</td><td>+</td><td>Shikra</td><td>Schedule I</td><td>LC</td></tr>
</table>
Wildlife Conservation Plan has been prepared for Schedule-I species and it has been submitted to Chief Wildlife Warden for approval vide letter no. 1049/EMG/2025/016 dated 07/02/2025, 1049/EMG/2025/017, dated: 24/02/2025 & 1049/EMG/2025/034 dated: 05/04/2025.
Approval of the Wildlife conservation plan is in process.</td><td></td></tr>
<tr><td>Hydrogeology study</td><td>Recommendations of the Hydrogeology study:
<table>
<tr><th>S. N.</th><th>NIH Recommendation</th><th>NTPC Gadarwara Action Plan</th><th>Estimated Expenditure & Target Date</th></tr>
<tr><td>1)</td><td>a) Regular monitoring of the mentioned surface water bodies may be carried out (both for pre and post monsoon seasons
b)
c)</td><td>a) Regular monitoring of surface water bodies surrounding NTPC Gadarwara is being done through NABL accredited laboratory, both for pre and post monsoon seasons).
b) Contract for monitoring of Hydrogeology of the area has also been initiated in which the locations according to scientific methodology shall be covered for both pre and post monsoon seasons.
Thus, pre-monsoon and post-monsoon monitoring shall be done annually.</td><td>§ Rs.1.29 Lakhs for Surface and Groundwater monitoring
§ Approx. Rs.26 lakhs for Hydrogeology Study and Rs. 1.29 Lakhs for Surface and Groundwater monitoring</td></tr>
<tr><td>2)</td><td>a) To analyse the possible impact of the operation of STPP Gadarwara on the ground water quality of the study area, through long term changes in ground water quality, groundb) water quality may be c) regularly monitored both in pre and post monsoon seasons for the mentioned locations.</td><td>a) Regular monitoring of ground water quality of area surrounding NTPC Gadarwara is being done through NABL accredited laboratory, for both for pre and post monsoon seasons.
b) Ground water impact assessment study covered in the scope of work of the hydrogeology study as mentioned at Sl. no 1(a).</td><td>§ Covered in point no. 1</td></tr>
<tr><td>3)</td><td>a) In order to study the impact of the STPP Gadarwara on changes in ground water levels in the study area, ground water levels may be regularly monitored both in pre and pob) st monsoon seasons fc) or the various locations mentioned.</td><td>a) Monitoring of Ground water levels is being done around ash dyke area during pre and post-monsoon seasons through institute of repute during hydrogeology study of the area.
b) Twelve (12) piezometers shall be installed around ash dyke, plant and township</td><td>§ Approx. Rs.24 lakhs, Target for Completion by December 2025</td></tr>
</table></td><td>NIH Roorkee</td></tr>
</table>

<table>
<tr><th>Period</th><th>From March 2024 to May 2024</th><th>Additional study (if any)</th></tr>
<tr><td></td><td>
<table>
<tr><th>S. N.</th><th>NIH Recommendation</th><th>NTPC Gadarwara Action Plan</th><th>Estimated Expenditure & Target Date</th></tr>
<tr><td></td><td></td><td>area to monitor the ground water level as well as quality around NTPC Gadarwara Plant premises.</td><td></td></tr>
<tr><td>4)</td><td>It is recommended that piezometers may be developed at about 5-6 locations around the ash pond areas for regular monitoring of the water levels and water quality, as has already been recommended in the study for the year 2022.</td><td>Actions have been initiated for procurement of 12 nos. of new piezometers out of which 06 nos. will be installed in the water contour path around the ash pond areas for regular monitoring of the water levels and water quality by December 2025.</td><td>Covered in Point no. 3</td></tr>
<tr><td>5)</td><td>Restoration of Ponds in the study area</td><td>Restoration work in 4 degraded ponds (Chor-Baretha, Gangai, Chirriya, Sukri) according to recommended methodology of the study area of Watershed Development Study conducted by Guru Ghasidas Vishwavidyalaya in the 10 Km radius of NTPC Gadarwara shall be taken up.</td><td>Approx. Rs.35 Lakhs
Target date of Completion – December-26</td></tr>
<tr><td>6)</td><td>A detailed study on rainwater harvesting needs to be carried out assessing not only the rainwater harvesting potential of the study area but also assessing the existing recharge and storing potential of the present recharge and storage structures present in the study area and their adequacy for recharging the whole rainwater harvesting potential. Additional rainwater harvesting structures, if needed, can be suggested only then.</td><td>a) Rainwater Harvesting Study has already been carried out and the rainwater harvesting scheme suggested in its report has been approved by CGWB. RWH study recommendations have been implemented by constructions of 30 rainwater harvesting pits to recharge the rainwater directly.
b) Scheme is being implemented to redirect the rainwater in the plant area to the raw water reservoir which can be reused in the Power Generation Cycle.
d) Further study will be carried out at an interval of 5 years according to the changing landscape / catchment area, groundwater regime.</td><td>Rs 3.4 Lakh for study of RWH
Rs 41 Lakh for construction & implementation of 30 nos RWH pits.
Rs. 50 Lakhs (approx.) contracts awarded for diversion of all the stormwater falling in the plant area Raw Water reservoir inside plant.
Target for completion- December 2025
Rs 10 Lakh for future RWH studies.</td></tr>
</table>
</td><td></td></tr>
<tr><td>Impact study on bio-diversity</td><td>The study concluded that the proposed project would have only minimal impact on the nearby area. The location where Power Plant is proposed has no habitat</td><td>Consultant details: Depar</td></tr>
</table>

<table>
<tr><th>Period</th><th>From March 2024 to May 2024</th><th>Additional s tudy (if any)</th></tr>
<tr><td>and aquatic eco logy</td><td>for any critical species. The biodiversity indices show good diversity in and aro und area. Low species reported in some groups during survey may be due to off season variability, which can be higher during peak season.
Recommendations of study report with action plan are as given below:
<table>
<tr><th rowspan="2">S. N.</th><th rowspan="2">Potential Locati on/Selection of lo cation for activit y</th><th rowspan="2">Action Plan</th><th rowspan="2">Estimated Cost (in Rs.)</th><th colspan="3">Implementation in Year(s)</th></tr>
<tr><th>1st Yr</th><th>2nd Yr</th><th>3rd Yr</th></tr>
<tr><td colspan="7">Activity: Development of a Biodiversity Park</td></tr>
<tr><td>1.</td><td>Large Spaces/are as in the vicinity of the thermal pla nt, which are not used for any plant activity but are pa rt of the plant are a.</td><td>1. Cleaning of the projected a rea. Preparatio n of the land (area) accordin g to the need.
2. After settle ment prepare i t for digging f or major const ructions; such as pathways, p onds, pond out er lining, etc.
3. Last stage c leaning for fin al establishme nts.
4. Planting of endangered pl ant species.
5. Creating po nds and devel opment of pat hways.
6. Establishme nt of Informati on boards, ma ps,etc.
7. Establishme nts of path lig htings, related wirings, and c onnections an d Final cleanin g</td><td>60,00,00 0/-</td><td></td><td></td><td>√</td></tr>
<tr><td colspan="7">Activity: Development of a Butterfly Garden</td></tr>
<tr><td>2.</td><td>In any degraded p art of plant, an ar ea with high inva sive plants, in the residential campu s as well as in the gardens of workin g plant</td><td>1. Cleaning of the projected a rea. Preparatio n of the land (area)
2. Plantation o f host and nect ar plants such as curry tree, l</td><td>2,00,000/-</td><td>√</td><td></td><td></td></tr>
</table></td><td>tment of Zoo logy, Univer sity of Luckn ow</td></tr>
</table>

Period	From March 2024 to May 2024						Additional study (if any)
			emon, oleander, tropical milkweed, Mussaenda, Ixora, Oxalis etc. 3. Preparing an area for mud puddling, shade, and moist areas/small ponds. 4. Continuous maintenance and sustenance of the garden area				
	Activity: Survey and protect heritage trees in the area						
	3.	The area around temples, in sacred groves in the 10km radius of the plant area.	1. Surveying the area to find the heritage tree. (Heritage Trees are trees that the City Council has formally recognized for their unique size, age, historical or horticultural significance, and Eligibility criteria). The main criteria for considering a tree as a heritage tree are its size, form, shape, age (more than 100 years old trees), color, and rarity 2. Identification of the trees and documenting the details of heritage trees in the area. 3. Providing interventions such as metal fencing of the Tree and, an information board (with details of the importance of the tr	40,000/- per tree (cost will be based on the number of trees)		√		

<table>
<tr><th>Period</th><th>From March 2024 to May 2024</th><th>Additional s tudy (if any)</th></tr>
<tr><td></td><td>
<table>
<tr><td></td><td></td><td>ee) for protecti on of the herit age trees.</td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="7">Activity: Restoration of wetlands of selected villages in a radius of 10km of the thermal plant</td></tr>
<tr><td>4.</td><td>4 (a).Chirriya Tal aab and
4 (b). Bada Talaa b near Raja ka M ahal</td><td>1. Restoration of the wetland by removal of water Hyacint h, and plantin g native aquati c plants.
2. Stopping dr ainage openin gs in wetland s,
3. Beautificati on (putting inf ormation boar ds, seating ben ch) for touris m.</td><td>10,000,0 0/- (for on e wetland)</td><td></td><td></td><td>√</td></tr>
</table>
</td><td></td></tr>
<tr><td>Risk assessmen t study</td><td>Recommendations of Risk assessment report with mitigation measures:
<table>
<tr><th rowspan="2">S. N.</th><th rowspan="2">Items Proposed</th><th colspan="5">Financial Outlay (in Cr.)</th><th rowspan="2">Total Fin ancial Outlay (in Cr.)</th></tr>
<tr><th>1st Y r</th><th>2nd Yr</th><th>3rd Yr</th><th>4th Yr</th><th>5th Yr</th></tr>
<tr><td>1</td><td>Fire service facility inclu ding
•Smoke and fire detection alarm system
•Water supply
•Fire hydrant and nozzle i nstallation
•Foam system
•Water fog and sprinkler s ystem
•Mobile Firefighting equi pment
•First aid appliances</td><td>10.5</td><td>8</td><td>2</td><td>2</td><td>2</td><td>24.5</td></tr>
<tr><td>2</td><td>Periodic maintenance of a ll protective and safety eq uipment</td><td>1.5</td><td>1.5</td><td>1.5</td><td>1.5</td><td>1.5</td><td>7.5</td></tr>
<tr><td>3</td><td>Installation of Windsock s/wind cock</td><td>0.01</td><td>--</td><td>--</td><td>--</td><td>--</td><td>0.01</td></tr>
<tr><td>4</td><td>Periodical training/aware ness to work force</td><td>0.25</td><td>0.25</td><td>0.25</td><td>0.30</td><td>0.30</td><td>1.35</td></tr>
<tr><td>5</td><td>Periodic mock drills</td><td>0.05</td><td>0.05</td><td>0.05</td><td>0.05</td><td>0.05</td><td>0.25</td></tr>
<tr><td>6</td><td>Signboards including em ergency phone numbers a nd no smoking signs</td><td>0.12</td><td>0.12</td><td>0.12</td><td>0.12</td><td>0.20</td><td>0.68</td></tr>
<tr><td>7</td><td>Proper earthing</td><td>2.5</td><td>2.5</td><td>1.5</td><td>0.5</td><td>0.5</td><td>7.5</td></tr>
</table>
</td><td>Consultant d etails: NAB ET Accredite d EIA Consu ltant M/s Gre encindia Con sulting (P) Lt d, Ghaziaba d, Uttar Prad esh.</td></tr>
</table>

Period	From March 2024 to May 2024	Additional s tudy (if any)

S. N.	Items Proposed	Financial Outlay (in Cr.)					Total Financial Outlay (in Cr.)
		1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr	
8	Emergency lighting	2.5	2.5	1.5	0.5	0.5	7.5
Total (Fifty-Two Crores Twenty-Nine Lakhs)							**52.29**

Details of Hazards and mitigations measures given in Chapter-7.

					Disposal through Registered	
					Disposal through	

24.1.13: Public Consultation:

Details of advertisement given	26/11/2024 & 28/11/2024
Date of public consultation	30/12/2024
Venue	Police Station Dongargaon, village Mehrakheda, NTPC Station Bhawan, near Gadarwara, Narsinghpur
Presiding Officer	Sub Divisional Magistrate
Major issues raised	Employment to local people, skill development, women empowerment, renovation of school building, village Road construction, bridge on Shakkar and Sitarewa river, check dam, plantation in villages and pollution from ash and coal dust.
No. of people attended	435

Action plan as per MoEF&CC O.M. dated 30/09/2020 to address the concerns of public consultation:

Sr. No	Key Area Identification for Activities Based on Public Needs Highlighted During Public Hearing	Proposed Expenditures year wise (Rs. In Crores)					Total Proposed Expenditure (Rs. In Crores)	Physical Targets
		1st Year	2nd Year	3rd Year	4th Year	5th Year		
A	**Educational Initiatives**							
1	Scholarships for meritorious students	0.10	0.12	0.16	0.12	-	0.50	Identify and award scholarships to at least 10 deserving students annually from nearby villages to encourage higher education. Scholarships to be continued every academic year till project completion.
2	Support for extracurricular activities							Organize annual sports tournaments, yoga events, debate, and cultural programs across primary schools. Provide necessary kits and awards to encourage student participation of PAVs.
3	Construction of Additional Classrooms							Construct 4 standard classrooms (each ~600–700 sq. ft) in primary government schools with complete furnishing. Target to complete within 4 years.
4	Principal Room + Staff Room Construction							Construct 1 principal office and 1 staff common room (~250–300 sq. ft each) in each identified school to improve administration and teacher facilities.
5	Library + Computer Room Setup							Establish 1 well-equipped library (books, shelves) and 1 computer lab (5–10 computers) in targeted schools to enhance digital learning and reading habits.
6	Toilets (Boys & Girls separately)							Construct 2 separate toilet blocks (Boys & Girls) with safe sanitation facilities in each identified school, ensuring hygiene and gender safety.
7	Assembly Hall/ Multipurpose Room							Develop 1 semi-open/covered multipurpose assembly hall (~1000 sq. ft) in selected school for morning assembli

Sr. No	Key Area Identification for Activities Based on Public Needs Highlighted During Public Hearing	Proposed Expenditures year wise (Rs. In Crores)					Total Proposed Expenditure (Rs. In Crores)	Physical Targets
		1st Year	2nd Year	3rd Year	4th Year	5th Year		
								es, events, and indoor activities.
8	Playground Development							Level and develop playgrounds (~5000–7000 sq. ft) with basic sports facilities like football posts, volleyball court, and swings for students' physical development.
		0.10	0.12	0.16	0.12	-	0.50	
B	**Community Health Initiatives**							
9	Organization of Health Camps (Regular, Quarterly) in 07 PAVs	0.10	0.14	0.16	0.20	-	0.60	Conduct 4 health camps annually in each of the 7 PAV villages. Basic checkups, free medicines, and specialist consultations will be provided till December 2029.
10	Medical Facilities/Support to Nearby Hospitals (equipment/aid)							Provide essential medical equipment (wheelchairs, stretchers, BP monitors) to 2–3 identified nearby hospitals. Strengthen basic healthcare delivery infrastructure by 2026.
11	Swachhta Pakhwara Awareness Campaigns (Cleanliness Drives, Posters, Wall Paintings)							Organize cleanliness drives and awareness events twice a year in all 7 villages. Cover schools, panchayat areas, and market places with educational wall paintings and posters.
12	Maternal and Child Health Awareness Programs (nutrition, immunization drives)							Conduct focused nutrition and immunization awareness camps quarterly for pregnant women, new mothers, and children in all 7 villages. Target at least 100+ beneficiaries annually.
13	Safe Menstrual Hygiene Awareness and Distribution of Sanitary Kits							Organize bi-annual sessions for adolescent girls and women across all 7 villages. Distribute free sanitary kits and educate about menstrual hygiene management.

Sr. No	Key Area Identification for Activities Based on Public Needs Highlighted During Public Hearing	Proposed Expenditures year wise (Rs. In Crores)					Total Proposed Expenditure (Rs. In Crores)	Physical Targets
		1st Year	2nd Year	3rd Year	4th Year	5th Year		
14	Preventive Health Posters, IEC Material Distribution (leaflets, banners)							Print and distribute preventive healthcare leaflets and banners every year. Door-to-door outreach and campaign coverage for over 5000+ people across villages.
		0.10	0.14	0.16	0.20	-	0.60	
C	**Sustainable Livelihood and Women Empowerment**							
15	Skill Development Training for Youths (Technical and Non-Technical Courses)							Conduct 6–8 batches of technical and soft skills training covering 300+ youths across 7 villages. Courses include electrician, tailoring, computer basics, hospitality, etc., completed by 2030.
16	Capacity Building Workshops for SHGs (Entrepreneurship, Financial Literacy)							Organize 12–15 workshops for SHG groups focused on entrepreneurship skills, financial literacy, digital transactions, and business startup training.
17	Agricultural Training Programs for Farmers (Modern Farming, Drip Irrigation, Organic Farming Techniques)	0.05	0.10	0.12	0.17	0.11	0.55	Conduct at least 8 agricultural camps and field demonstrations targeting 200+ farmers. Topics include modern crop practices, drip irrigation, and organic farming techniques.
18	Tools, Equipment, and Starter Kits for SHGs and Farmers							Distribute starter kits like sewing machines, vegetable seed kits, and drip sets to 100+ trained beneficiaries (SHGs and farmers) for immediate livelihood activities.
19	Exposure Visits / Field Tours for SHGs and Farmers to Model Villages / Krishi Vigyan Kendras							Arrange 2 exposure visits per year for selected SHGs and farmers to model villages, farms, and Krishi Vigyan Kendras to showcase best practices.
20	Mobilization, IEC Activities (Banners, Pamphlets, Motivat							Organize mobilization drives and distribute over 5000+ leaflets, banners, and pamph

Sr. No	Key Area Identification for Activities Based on Public Needs Highlighted During Public Hearing	Proposed Expenditures year wise (Rs. In Crores)					Total Proposed Expenditure (Rs. In Crores)	Physical Targets
		1st Year	2nd Year	3rd Year	4th Year	5th Year		
	ion Sessions)							lets in villages to ensure maximum participation in trainings and awareness sessions.
		0.05	0.10	0.12	0.17	0.11	0.55	
D	**Community Rural Infrastructure Development**							
21	Pitching and Retaining Wall at Ghatpipariya (100 meters)	0.2	0.8	0.4	1.0	1.0	3.40	Construction of a 100-meter-long pitching and retaining wall at Ghatpipariya. Target completion by July 2028.
22	Cow Sheds (03) at Dongargaon, Chichli & Gangai							Construction of 3 cow sheds at Dongargaon, Chichli, and Gangai. Target completion by July 2028.
23	Ponds (02) at Chorbarheta & Dongargaon							Construction of 2 ponds at Chorbarheta and Dongargaon. Target completion by July 2028.
24	Check dams on Shakkar River & Sitarewa River							Construction of check dam (approx.100m width) on Shakkar and Sitarewa rivers. Target completion by:Apr-2030
25	**Road Construction:** Ghatpipariya to Kahartola (1.5 km)	0.20	0.60	1.20	1.20	0.65	3.85	Construction of a 1.5 km road connecting Ghatpipariya to Kahartola. Target completion by April 2030.
26	Manakwara to Adiwasi Tola (950 m)							Construction of a 950-meter road connecting Manakwara to Adiwasi Tola. Target completion by April 2030.
27	Gangai to NTPC Main Road (300 m)							Construction of a 300-meter road from Gangai to the NTPC main road. Target completion by April 2030.

Sr. No	Key Area Identification for Activities Based on Public Needs Highlighted During Public Hearing	Proposed Expenditures year wise (Rs. In Crores)					Total Proposed Expenditure (Rs. In Crores)	Physical Targets
		1st Year	2nd Year	3rd Year	4th Year	5th Year		
28	Construction of Drainage (200 meters) at Village Dongargaon							Construction of a 200-meter drainage system at Village Dongargaon. Target completion by April 2030.
29	No. of Solar High-mast Lights (07 nos.) and Streetlights (70 nos.)	0.30	0.30	-	-	-	0.6	Installation of 7 Solar High-mast Lights and 70 nos. streetlights across various villages. Areas to be covered: Gangai, Chorbarheta, Dongargaon, Kudari, Mehrakheda, Umariya, Ghatpipariya, and Manakwara.
		0.7	**0.7**	**1.6**	**2.2**	**1.65**	**7.85**	
E	**Development of Playgrounds for Sports**							
30	Construction of an open gym at village Gangai and a playground at villages Chorbarheta and Manakwara.	0.50	0.50	-	-	-	1.0	Construction of an open gym at village Gangai. Construction of playgrounds at Chorbarheta and Manakwara. Target completion by October 2027.
31	Providing sports materials at Chorbarheta and promoting cultural sports in nearby villages.							Providing sports materials at Chorbarheta and promoting cultural sports in nearby villages. Target completion by October 2027.
		0.50	0.50	-	-	-	1.0	
F	**Community Development for various activities at village level**							
32	Construction of a welcome gate, welfare activities, renovation of school buildings, drainage systems, and culverts.	0.20	0.20	0.20	0.20	0.20	1.0	Construction of a welcome gate, renovation of school buildings, drainage systems, and culverts. Target completion by October 2030.
33	Welfare activities for community development in the village							Implementation of welfare activities aimed at community development in the village. Target completion by Octob

Sr. No	Key Area Identification for Activities Based on Public Needs Highlighted During Public Hearing	Proposed Expenditures year wise (Rs. In Crores)					Total Proposed Expenditure (Rs. In Crores)	Physical Targets
		1st Year	2nd Year	3rd Year	4th Year	5th Year		
								er 2030.
		0.20	0.20	0.20	0.20	0.20	1.0	
Total (A+B+C+D+E+F)		**2.25**	**3.06**	**3.19**	**2.04**	**0.96**	**11.50**	

24.1.14: Cost of project: Existing capital cost of project was Rs. 15,105.22 Crores. The capital cost of the proposed project is Rs. 20,445.69 Crores and the capital cost for environmental protection measures is proposed as Rs. 2,015.44 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 40.16 Crores. The employment generation from the proposed project / expansion is approx. 96 nos. & 186 nos. permanent employment during construction and operation phases respectively and approx. 2000 nos. & 1500 nos. contractual employment during construction and operation phases respectively. The details of cost for environmental protection measures are as follows:

S. No.	Item Description	Capital Cost, Rs. in Crores	Recurring Cost, Rs. in Crores
	Electrostatic Precipitator	356.67	7.13
	Chimney	224.15	4.48
	Aux. Cooling Towers incl. Civil Works	26.92	0.53
4.	Ash Handling incl. AWRS	702.12	14.04
5.	Ash Dyke	100	2.0
6.	Dust extraction & suppression System	6.1	0.12
7.	DM plant, Waste treatment systems	5.0	0.1
8.	Sewerage collection, treatment & disposal	2.0	0.04
9.	Rainwater Harvesting	1.0	0.02
10.	Green Belt, Afforestation & Landscaping	10.0	0.2
11.	Flue Gas Desulfurization (FGD)	566.25	11.32
12.	Solar Power harnessing	4.59	0.09
13.	Environmental Lab Equipment	0.50	0.01
14.	Environmental Monitoring Systems	4.30	0.08
15.	**Provision for Implementation of study recommendation**		

S. No.	Item Description	Capital Cost, Rs. in Crores	Recurring Cost, Rs. in Crores
a.	Wildlife Conservation through Forest Dept.	2.52	--
b.	Watershed Development and River conservation	0.70	--
c.	Biodiversity Analysis Report Recommendation	0.72	--
d.	Hydrogeology Study Report Recommendation	1.90	--
	TOTAL	**2015.44**	**40.16**

24.1.15: Green belt development: Existing green belt has been developed in 66.368 ha area, which is about 14.01 % of the total plant area of 473.570 ha with total sapling of 83,639 Trees. Proposed greenbelt will be developed in 90.412 ha which is about 19.09 % of the total plant area. Thus total of 156.780 ha area (33.10% of total plant area) will be developed as greenbelt. A 5 m - 50 m wide greenbelt, consisting of at least 3 tiers around plant boundary will be developed as greenbelt and green cover as per CPCB guidelines. Local and native species will be planted with a density of 2500 trees per hectare. Total no. of 2,26,025 saplings will be planted and nurtured in 90.412 hectares in 7 years.

Rs.	Quantity Generated (MT)	Quantity utilized (MT)	% of Utilization	Balance Quantity (MT)	No of storage silos with capacity
2022-23	19,58,865	14,31,092	73.06	5,27,773	3 nos. of 750 MT each (2250 MT)
2023-24	21,32,894	23,82,289	111.69	-2,49,395	
2024-25	21,72,114	17,85,254	82.19	3,86,860	

A. Fly ash details of last 3 years

S. No.	Activity (as applicable)	Quantity Utilized, MT	Percentage of Total Fly Ash	Remarks (Prior approval of SPCB details to be mentioned)
1	Fly ash-based products (bricks or blocks or tiles or fiber cement sheets or pipes or boards or panels)	2022-23: 5015	0.32	-
		2023-24: 25200	1.48	
		2024-25: 42208	2.43	-
2.	Cement manufacturing	2022-23: 55369	3.53	
		2023-24: 14390	0.84	
		2024-25: 17625	1.01	
3.	Construction of roads, road and fly over embankment	2022-23: 1342158	85.65	-
		2023-24: 2342699	137.30	

		2024-25: 1711091	98.47	
4.	Filling up of low-lying area	2022-23: 4000	0.26	Prior approval of MPPCB o btained
		2023-24: 0		
		2024-25: 0	0	
5.	Filling of mine voids/stone q uary:	2022-23: 24550	1.57	Prior approval of MPPCB o btained
		2023-24: 0	0	
		2024-25: 0		
	Total	**5584305**	**91.37**	

B. Bottom ash details of last 3 years

S. No.	**Activity (as applicable)**	**Quantity**	**Percentage**
14.	Low lying area/ Abandoned mines/Stone quarry/R oad construction	2022-23 = 0	0
		2023-24 = 0	0
		2024-25 = 1044	0.24
	Total	**1044**	**0.24**

D. ***Ash Pond Details***: - Stage-I (Existing Ash Dyke)

S.No	**Details of Ash pond**	**HCSD Lagoon**	**BA Lag oon 2**	**BA Lagoon 3**	**Total**
	Status of ash pond (Active/ Exhausted, yet to be reclaim ed/ Reclaimed)	Active	Active	Active	3 nos. Active
	Area (Ha)	52.12 Ha	BA-II-38. 25 Ha	33.56 Ha	Total – 157.02 0 Ha. 1. HCSD: 52.1 2 Ha 2. BA-II :38.2 5 Ha 3. BA-III: 33. 56 Ha 4. Overflow la goon : 3.88 H a 5. Lagoon- 1 A: 12.64 Ha Ash evacuatio n road + drain =16.57 Ha
	Dyke height (m)	Avg. height: 10.0	Avg. heig	Avg. height: 1	Avg. height :

S.No	Details of Ash pond	HCSD Lagoon	BA Lagoon 2	BA Lagoon 3	Total
		meter	ht: 10.0 meter	0.0 meter	10.0 meter
	Volume (m^3)	31.87 LCM	21.48 LCM	25.39 LCM	78.74 LCM
	Quantity of ash disposed (Metric Tons)	74.22% and 23.65 LCM	20.22% and 4.34 LCM	6.18% 1.57 LCM	29.57 LCM
	Available volume in percentage and quantity of ash can be further disposed (Metric Tons)	25.77% 8.22 LCM	79.77% and 17.14 LCM	93.82% and 23.82 LCM	62.44 % 49.17 LCM
	Expected life of ash pond (number of years and months)	8 years	8 years	8 years	8years
	Type lining carried in ash pond: HDPE lining of LDPE Inning or clay Inning or No lining	Thick High Concentration Slurry disposal gets solidified and work as impervious liner.	HCSD lining	Clay & bentonite	
	Mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or MCSD or LCSD)	Wet Slurry HCSD	Wet Slurry LCSD	Wet Slurry LCSD	
	Ratio of ash: water in slurry mix (1:..):	1:1	1:6	1:6	
	Ash water recycling system (AWRS) installed and functioning: Yes or No	Yes	Yes	Yes	
	Quantity of wastewater from ash pond discharged into land or water body (m^3)	NA	NA	NA	NA
13.	Last date when the dyke stability study was conducted and name of organization who conducted the study:	Stability study conducted through IIT Hyderabad in Dec 2021 and the observations have been addressed.			
14.	Last date when the audit was conducted and name of the organization who conducted the audit:	Last Audit conducted through MNNIT-Allahabad in October 2024.			

E. Proposed ash utilization plan for expansion project:

Details	Existing generation (MTPA)	Proposed generation (MTPA)	Total (MTPA)	Utilization (MTPA)	% of utilization	Balance quantity (MTPA)	No. of storage silos with capacity
Ash (Fly & Bottom)	2750000	2750000	5500000	5512000	100.22	-	Main Silos:04 nos.,9500MT (3x2500MT+1X2000MT) HCSD Silos:03 nos., 2100 MT (3x700MT) Bottom Ash Silos: 2 nos., 3000MT (2 x1500 MT) for dry bottom ash system

Ash Pond details- For existing ash pond

S. No.	Details of Ash Pond (existing)	Ash Pond
1.	Area (Ha)	Total – 157.020 Ha. • HCSD – 52.12 Ha • BA-II -38.25 Ha • BA-III – 33.56 Ha • Overflow lagoon – 3.88 Ha • Lagoon- 1A: 12.64 Ha • Ash evacuation road + drain =16.57 Ha
2.	Dyke height (m)	Avg. height – 10.0 meter
3.	Volume (m^3)	Total – 78.74 LCM.
4.	Quantity of ash to be disposed (Metric Tons)	Total – 49.17 LCM
5.	Expected life of ash pond (number of years and months)	8 years
6.	Type lining carried in ash pond: HDPE lining of LDPE lining or clay lining or No lining	• FL: Clay & Bentonite
7.	Mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or MCSD or LCSD)	Wet slurry disposal. 1. HCSD Lagoon: HCSD 2. BA-II&III: LCSD
8.	Ratio of ash: water in slurry mix (1:..)	HCSD - 1:1 BA Lagoon-II – 1:6 BA Lagoon-III – 1:6
9.	Ash water recycling system (AWRS): Yes or No	Yes
10.	Quantity of wastewater from ash pond to be discharged into land or water body (m^3)	No wastewater discharge. Zero Liquid Discharge system implemented.
11.	Details regarding dyke stability study and name	Stability study conducted through IIT Hyderabad in D

S. No.	Details of Ash Pond (existing)	Ash Pond
	of the organization who conducted the study.	ecember 2021 and the observations have been address ed.

S. N.	Details of Ash Pond (propo sed)	Earlier	Optimised
1.	Area (Ha)	107.242	99
2.	Dyke height (m)	7.5 m (Starter dyke)	7.5 m (Starter dyke)+ 1 Raising
3.	Volume (m^3)	4.6 Million m^3	6.2 Million m^3
4.	Quantity of ash to be dispos ed (Metric Tons)	4.6 Million Metric Tons (considering density as 1 T/Cum)	6.2 Million Metric Tons (considering density as 1T/Cum)
5.	Expected life of ash pond (n umber of years and months)	1 Years 6 Months (w.r.t. t otal ash generation of Sta ge-II)	2 Years 0 months (w.r.t. total ash generation of Stage-II)
6.	Type lining carried in ash po nd: HDPE lining of LDPE li ning or clay lining or No lini ng	Suitable impervious lining as per actual site conditions meeting the imperv iousness requirements as per standard “Guidelines for Design, Constructio n, O&M and Annual certification of Coal Ash Ponds-June 2023”. HDPE li ning system is envisaged in OFL and Bentonite blended lining in all ash st orage lagoons.	
7.	Mode of disposal: Dry dispo sal or wet slurry (in case of wet slurry please specify wh ether HCSD or MCSD or L CSD)	Fly Ash: HCSD. Bottom Ash: LCSD	
8.	Ratio of ash: water in slurry mix	Maximum 25% ash on dry ash basis, rest is water for LCSD Slurry· 55% to 65% (Average - 60%) of ash on dry ash basis for HCSD slurry.	
9.	Ash water recycling system (AWRS):	Yes	
10.	Quantity of wastewater from ash pond to be discharged in to land or water body (m3)	Zero Liquid Discharge (ZLD) system envisaged for the proposed expansio n project. No wastewater discharge is envisaged.	
11.	Details regarding dyke stabil ity study and name of the or ganization who conducted th e study.	As already done in all past ash dyke stability design, this will also be done by NTPC, (in-house design) in line with standard “Guidelines for Design, Construction, O&M and Annual certification of Coal Ash Ponds-June 202 3”. Adequate measures for safety and stability of the Ash dyke are conside red from design stage.	

24.1.17: Summary of violation under EIA, 2006/court case/show cause/direction if any, related to the project under consideration are furnished as below-

CONSOLIDATED LEGAL CASES

Nature of cases	Supreme Court	High Court	District Court	Arbitration	Labour Court/ Industrial Tribunal	Other Authorities	Total
Service Matter	-	02	-	-	-	-	02
Labour cases/ Factory Cases	-	-	01	-	02		03
Land Acquisition cases	-	05		-	-	-	06
Pollution / Environmental cases	-	01	-	-	-	-	01
PIL Cases	-	-	-	-	-	-	Nil
Cases under Insolvency and Bankruptcy code, 2016	-	-	-	-	-	-	Nil
Misc. Cases	-	02	02	-	-	-	04
Arbitration Cases	-	01	-	01		-	02
Total	-	**11**	**03**	**01**	**02**		**18**

Details pertaining to Pollution / Environmental related Court case:

S. N.	Category of cases	Case No.	Name of the Court	Name of the Advocate	Petitioner	Respondent	Description of the case	Present Status/ Remarks	Present Status/ Remarks as on date
1	High Court	WP/ 12708/ 2019	High Court, Jabalpur	R.C Srivastava	Pappu Kaurav	UOI & Oth.	Petitioner has raised Environmental issues/ concerns w.r.t unloading of coal at Gadarwara Railway siding for use of Gadarwara Super Thermal Power Project and has prayed for necessary precautionary measurers at the time of unloading of coal.	Case is pending before High Court, Jabalpur and presently not scheduled for listing. Further, the railway line up to Gadarwara STPP has been commissioned and No Coal Unloading is being done at Gadarwara railway siding.	Not listed

B. Summary of Show Cause Notices: Nil

S. N.	Recommendation	Compliance Status /Action Taken
1	Phase wise plan for the green belt development all along the internal roads, residential colony and gap area. Adequate budgetary provision sh ould be incorporated for the purpose.	Green belt /Plantation development plan including gap filli ng has been prepared and included in Final EIA Report.
2	Design, Construction and maintenance of prop osed ash pond/dyke (for Stage – II) shall be as per the guidelines issued by the CPCB/CEA in June 2023 and provision of Ash Loaded Truck s Body /Tyres cleaning mechanism to be provi ded near ash pond/weigh Bridge.	In line with Guidelines of CPCB and CEA; dated June 202 3, Design and Construction of proposed ash pond/dyke (for Stage – II) will be done as per actual lagoon/site requireme nts. Wheel washing system is being provided for ash transp ortation vehicles.
3	Proper fencing and plantations all around the b oundary of ash ponds.	Protection measures shall be provided as per CPCB guideli nes. Fencing and signboards have been provided at Plantati on along ash dyke and further plantation will be done alon g the north boundary of the dyke.
4	Regular monitoring system to check groundwa ter quality in surrounding areas and also at ash ponds.	Regular monitoring of groundwater quality in surrounding areas around ash ponds is being done and will be carried o ut for proposed ash dykes also.
5	Village Dongargaon is located close to the pla nt boundary, adequate environmental safety m easures must be planned for the health and safe ty of the villagers.	NTPC Gadarwara has undertaken various CSR-CD activiti es like Construction of Road, Community Hall & Yatri Sh ed, provision of drinking water pipeline, medical camp etc. for the Dongargaon village. Following Environmental Safety measures are proposed to be undertaken under CSR-CD activities: 1) i. Regular monitoring of ambient air, groundwater quality, n oise level and soil quality 2) 3) ii. Quarterly health checkup camps under CSR for residents of Dongargaon village. 4) 5) iii. Periodic screening for specific Respiratory disorders like COPD, Asthma, Bronchitis etc and noise related condition s like hearing loss, tinnitus etc.
6	Under the CSR activity, emphasis shall be give n on the skill development trainings to the une mployed youth and women residing in the near by villages. Also, the PP shall join hands in tra ining with the National Skill Development Cor poration (NSDC) for greater good and outreac h.	Skill development trainings for the unemployed youth and women residing in the nearby villages is already being don e, Collaboration has been done with RSETI for training of Rural women.
7	The PP shall align with possible sustainable de velopment goals (SDG) as specified by the Uni ted Nations and stress upon the concept of Car bon Neutrality.	Proposed Project activities will help in achievement of Sus tainable Development Goals. The alignment with SDGs ha s been given in the Final EIA Report Chapter-2 Section 2.1 0.6.

24.1.19: Written submissions: Project proponent submitted the following written submissions during the meeting:

S. N.	EAC Meeting observations and point-wise reply
1	**Justification for requirement of Proposed Ash Dyke Area**
	The proposed Ash dyke area (99 Ha.) for Stage-II is essential to sustain plant operation due to following rea sons. In view of the above, NTPC Gadarwara shall put its sincere efforts to comply the stipulated norm prescribe d under applicable ash utilization notifications and considering the Ash utilization trend and potential, will r eview the requirement of the area mentioned for the existing and proposed ash dyke and **accordingly will p ut best efforts to convert approx. 70 Ha. exhausted ash dyke area, into Greenbelt in phased manner a fter 5 years from the start of Commercial operation of the last unit. The greenbelt area so developed s hall be in addition to the greenbelt area of 156.78 Ha. proposed in the application.**
2	**Revised action plan for issues raised in Public Hearing**
	Necessary corrections have been incorporated and revised action plan is submitted herewith.
3	**Ash Utilization avenues to be explored other than NHAI Road projects**
4	

3.1.3. Deliberations by the committee in previous meetings

N/A

3.1.4. Deliberations by the EAC in current meetings

24.1.20: The Committee observed and noted the following:

i. Instant proposal is for expansion of Gadarwara STPP by adding Stage- II 1600 MW (2x800 MW) with UltraSuper Critical technology having Air Cooled Condenser system to the existing Stage- I 1600 MW (2x800 MW) by M/s. NTPC Limited at Villages Gangai, Mehrakheda, Chorbarheta, Dongergaon and Kudari, Tehsil Gadarwara, District Narsinghpur, Madhya Pradesh.

ii. The existing Stage- I project for 1600 MW (2x800 MW) was accorded environmental clearance on 22/03/2013 and subsequently amended by the Ministry vide letters dated vide letter dated 01.09.2017, 07.02.2019, 22.10.2019, 11.08.2020 & 24.12.2021. Consent to Operate for the existing Unit was accorded by Madhya Pradesh Pollution Control Board (MPPCB), Bhopal vide Letter dated 22.07.2024 and the same is valid up to 30.09.2026. Both units of the existing Project has been implemented and is under operation.
iii. Compliance report submitted by RO, Bhopal on dated 21.04.2025 for the existing unit along with the action taken by the proponent was deliberated by the Committee and found it satisfactory.
iv. ToR for the proposed expansion project was obtained on 30/09/2024.

v. Total land of 910.706 ha is required for the proposed project (289.232 ha) including existing Unit (621.474 ha), out of which, 854.56 ha has been acquired and is under possession of M/s. NTPC Limited. Out of total project area of 910.706 Ha, an area of 56.146 Ha land is under Right of Use (ROU) for makeup water pipeline and yet to be acquired by the proponent. Overall, the proposed expansion is within the plant premises area and no additional land acquisition is envisaged for the proposed expansion project.

vi. There is no involvement of forest land in the proposed project.

vii. The EAC also took into consideration the drone survey of the project site and KML file on the Google Earth

presented by the project proponent along with DSS of the project site on PARIVESH portal.

viii. There are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from the project site as ascertained from DSS.

ix. The project site is not located within the Critically Polluted Area (CPA) / Severally Polluted Area (SPA) as per CEPI assessment 2018 of CPCB.

x. Shakkar River is located at distance of 600 m (NE-N) from the project site. Water Resource Department vide letter dated 15/10/2024 has given certificate regarding HFL level of Shakkar River at Gadarwara, which is 332.47 m as recorded on 08.09.1999.

xi. As per the Survey of India Toposheet and the Census of India 2011 data, total 125 villages are present within 10 km radius from the project site. Some Schools are located within 2-3 Km of the project site. A dense greenbelt shall be developed around the Gadarwara STPP/ boundary wall of the Schools and along the roadsides as a barrier between the school, village and project boundary to mitigate noise and dust pollution.

xii. Coal requirement for Stage-I (2x800 MW) & Stage II (2x800 MW) project will be met through Rail. There will be no road transportation of coal for Stage- I & II. The coal unloading shall be done through Wagon Tippler/ Track Hopper.

xiii. Existing Water requirement is 1,12,200 m3/day, which is obtained from Narmada River. The water requirement for the proposed project is estimated as 48,000 m3/day for which additional water allocation has been obtained from Water Resources Department, Govt. of Madhya Pradesh, vide letter dated 19.02.2024. Total Water Requirement of the project will be 1,60,200 m3/day, which is well within the existing permission limit. The water will be transported to the plant site through pipeline.

xiv. Existing power requirement for the existing stage-I and proposed stage-II project is 100 MW and 124 MW, respectively, which shall be obtained from own Gadarwara STPP.

xv. The Committee deliberated on the baseline data and incremental GLC due to the proposed project and observed that AAQ levels are within NAAQS.

xvi. The Stage-II units (2x800 MW) will incorporate high-efficiency (with 99.99%) Electrostatic Precipitators (ESP) to control ash particle emissions. These ESPs will design to limit particulate emissions < 20 mg/Nm3. A wet limestone-based Flue Gas Desulphurization (FGD) system will be installed behind ESP, at the tail end of the steam generator downstream in which SO2 gas shall be captured in limestone slurry (to limit SO2 emission below 100 mg/Nm3) to produce gypsum. Besides, Low NOx Burner, Over Fire Air, Dust Extraction and Dust Suppression system shall be implemented to minimize the pollution.

xvii. Zero Liquid Discharge system is envisaged for the proposed expansion project. No wastewater discharge is proposed.

xviii. Eight (8) Schedule I Species has been reported in the buffer zone. Wildlife Conservation & Management Plan (WLCP) has been prepared and submitted to Principal Chief Conservator of Forest (Wildlife), Govt. of Madhya Pradesh for the approval.

xix. Committee deliberated on the action plan of Hydrogeology study; Bio-diversity/aquatic ecology study and Risk assessment study and found it satisfactory.

xx. Public hearing for the project was held on 30/12/2024. The Committee looked in to the videography of the public hearing proceedings, deliberated on the public hearing issues along with action plan submitted by the proponent to address the issues raised during the public hearing and found it satisfactory. The committee advised the PP to implement the PH action plan in a time bound manner.

xxi. Capital cost of the existing project was Rs. 15,105.22 Crores. The capital cost of the proposed Stage-II project is Rs. 20,445.69 Crores and the capital cost for environmental protection measures is proposed as Rs 2,015.44 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs 40.16 Crores. The employment generation from the proposed project / expansion project is approx. 96 nos. & 186 nos. permanent employment during construction and operation phases, respectively, and approx. 2000 nos. & 1500 nos. contractual employment during construction and operation phases, respectively.

xxii. Existing green belt has been developed in 66.368 ha area, which is about 14.01 % of the total plant area of 473.570 ha with total sapling of 83,639 Trees. Proposed greenbelt shall be developed in 90.412 ha which is about 19.09 % of the total plant area. Thus total of 156.780 ha area (33.10% of total plant area) will be developed as greenbelt.

xxiii. Committee deliberated on the existing ash management and observed that percentage of ash utilization for the year 2024-25 is observed to be only 82.19 %. Committee asked the proponent to achieve 100 % ash utilization. Further, with respect to the proposed new ash pond, the committee asked the proponent to optimize the land area. Accordingly, PP optimized the area from 107.242 Ha to 99 Ha.

xxiv. The committee noted that there 18 court cases with respect to the instant project. Out of 18 cases, only one case bearing Original Application No. WP/ 12708/ 2019 is related to the environment and the same is pending at High Court, Jabalpur.

xxv. The Committee noted that the EIA report is in compliance of the ToR issued for the project, reflecting the present environmental status and the projected scenario for all the environmental components.

xxvi. The EAC also deliberated on the written submission of the project proponent, and found it satisfactory.

xxvii. The EAC noted that the Project Proponent has given an undertaking that the data and information given in the application and enclosures are true to the best of his knowledge and belief and no information has been suppressed in the EIA/EMP reports. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.

Recommendations of the Committee:

24.1.21: In view of the foregoing and after detailed deliberations, the committee ***recommended*** the instant proposal for grant of Environment Clearance under the provisions of EIA Notification, 2006 subject to uploading of written submission on PARIVESH Portal and stipulation of the following specific conditions and general conditions based on project specific requirements:

3.1.5. Recommendation of EAC

Recommended (Subject to submission of requisite information/ documents)

3.1.6. Details of Environment Conditions

3.1.6.1. Specific

[A] Environmental Management	
1.	Project proponent shall adopt 100% utilization of ash generated as a result of the expansion project in accordance with the ash utilization notification dated 31/12/2021 and its subsequent amendment. Area for the additional ash pond proposed under the expansion project shall not exceed 99 Ha as committed
2.	In addition to the existing 4 Continuous Ambient Air Quality Monitoring Stations (CAAQMS), Project proponent shall install additional two continuous ambient air quality monitoring at suitable location within the project site in consultation with MPPCB as committed
3.	The water requirement for the proposed project is estimated as 48,000 KLD and the same shall be met from Narmada River. Air Cooled Condenser System shall be used in STPP Stage-II as committed
4.	Project proponent shall store harvested rainwater in the project boundary and utilize the same for plantation, recharging water in the pond and domestic utilization in colonies. A record shall be maintained of water collected through rainwater and its supply system. PP shall get the water audit done every year to optimize the water requirement.
5.	Project proponent shall implement the protective measure proposed in EMP in a time-bound manner. The budget

	earmarked for the same is Rs. 2,015.44 Crores (Capital) and Rs. 40.16 crores (recurring) and should be kept in separate accounts and audited annually. The implementation status along with the amount spent with documentary proof shall be submitted to the concerned Regional Office for the activities carried out during the previous year.
6.	Project proponent shall assess the carbon footprint of the project and develop carbon sink/carbon sequestration resources using modern technologies. The implementation report shall be submitted to the concerned Regional Office of the MoEF&CC.
7.	Project proponent shall install and commission the FGD for the existing 2x800 MW & and proposed 2x800 MW unit as per the Ministry's notification dated 05/09/2022 and its subsequent amendments.
8.	Ash pond area and fly ash utilization shall be as per Fly Ash Notification issued by Ministry/ CPCB from time to time.
9.	Project proponent shall ensure that pipelines carrying the fly ash and effluent shall be inspected regularly for any leakages.
10.	Effluent of 4920 KLD will be treated through Effluent Treatment Plant. As committed by the Project proponent, Zero liquid discharge shall be adopted for the existing and the proposed plant. No wastewater will be discharged outside the project site.
11.	PP shall implement the concurrent plantation plan in a time bound manner. Total of 156.780 ha area (33.10% of total plant area of 473.570 ha) will be developed as greenbelt. A 5 m - 50 m wide greenbelt, consisting of at least 3 tiers around plant boundary will be developed as greenbelt and green cover as per CPCB guidelines. PP shall also adopt Miyawaki plantation technique and plantation with minimum 2 meter height of the saplings in upcoming monsoon season. The budget earmarked for the green belt, plantation inside and outside the plant area, along the transportation route and Miyawaki Plantation area shall be kept in a separate account and audited annually. PP should annually submit the audited statement of expenditure along with proof of activities viz. photographs (before & after with geolocation date & time), details of expert agency engaged, details of species planted, number of species planted, survival rate, density of plantation etc. to the Regional Office of MoEF&CC and on PARIVESH Portal as the case may be for the activities carried out during previous year.
12.	Project proponent shall carry out community plantation with incentive scheme by distributing 50,000 saplings per year for a period of five years. Further, PP shall provide basic facilities to the nearby schools such as drinking water, sanitation facilities and shall also develop green belt around the nearby schools. Regular watering of saplings planted in the nearby schools will be carried out by Project Proponent to mitigate the air and noise pollution. Further, PP shall organize quarterly awareness programs for school students to educate them on the significance and preservation of trees.
13.	Project proponent shall review the requirement of the area mentioned for the existing and proposed ash dyke and accordingly will put best efforts to convert approx. 70 Ha exhausted ash dyke area of Stage I into Greenbelt in phased manner after 5 years from the start of Commercial operation of the Stage II units. The greenbelt area so developed shall be in addition to the greenbelt area of 156.78 Ha as proposed under the instant proposal.
14.	Wildlife conservation plan as approved by the competent authority shall be implemented. Additional, budget shall be added in the plan, in case additional measures suggested by state wildlife department. The final Wildlife conservation plan duly approved by the CWLW shall be submitted to RO, MoEF&CC within a time frame of three months from the date of grant of EC and the budget approved by the concerned authority shall be deposited in government account.
15.	Project proponent shall install LED display of air quality (Continuous AAQ monitoring) and stack emission (Continuous emission monitoring) at prominent locations preferably outside the plant's main entrance for public viewing and in administrative complex and maintenance of devices shall be done regularly.
16.	Project proponent shall carry out Water Sprinkling on roads inside the plant area/ administrative/ residential areas and outside the plant area at least for 2 KM on a regular basis to control the air pollution. A logbook shall be maintained for the activity and be in six-monthly compliance report.

17.	PP shall deploy vacuum based vehicle for everyday cleaning of the road in and around plant site at least for 5 KM.
18.	Environment Audit of plant shall be done annually and report shall be submitted to Regional office of the Ministry.
19.	A detailed action plan regarding leachate handling shall be prepared and implemented in consultation with SPCB and the same shall be submitted to the Regional Office of the Ministry. Leachate shall be treated and reused. No treated leachate shall be discharged in any circumstances. Characteristics of Leachate and the treated leachate shall be monitored once in quarter and records shall be maintained.
20.	Oil and grease recovered from the treatment plant should be disposed only through authorized recyclers.
21.	Monitoring of surface water quality and Ground Water quality shall also be regularly conducted in and around the project site and records to be maintained. Further, monitoring points shall be located between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall also be undertaken and results/findings submitted along with half yearly monitoring report. The monitored data shall be submitted regularly on PARIVESH portal as part of Half Yearly compliance report.
22.	For the DG sets, emission limits and the stack height shall be in conformity with the extant regulations and the CPCB guidelines. Acoustic enclosure shall be provided to DG set for controlling the noise pollution.
23.	PP shall ensure that all types of plastic waste generated from the plant shall be stored separately in isolated area and disposed of strictly adhering to the Plastic Waste Management Rules 2016 (as amended). In pursuant to the Ministry's OM dated 18/07/2022. PP shall also create awareness among the people working in the project area as well as in its surrounding area on the ban on Single Use Plastic (SUP) in order to ensure compliance of Ministry's Notification published by the Ministry on 12/08/2021. A report along with photograph on the measures taken shall also be included in the six monthly compliance report submitted by PP.
24.	PP is advised to implement the 'Ek Ped Maa Ke Naam' Campaign which was launched on 5th June 2024 on the occasion of the World Environment Day to increase the forest cover across the Country. This plantation drive is other than Green belt development. The action in this regard shall be submitted concerned RO in six monthly report.
[B] Socio-economic	
1.	A vision document comprising prospective plan for implementation of various CER activities, plantation programme outside the project cover area, rejuvenation and conservation of water bodies within 5 km radius of the project cover area shall be prepared and submitted to the Regional Office of the Ministry within 6 months. Implementation status of the same shall be reported to the Regional office in 6 monthly compliance report.
2.	Epidemiological Study among population within 5 km radius of project cover area shall be carried out on regular interval (Once in two year) through independent agency. Necessary measures shall be taken as per findings of study in consultation with district administration. Action taken report shall be submitted to the Regional Office of the Ministry.
3.	The budget proposed for PH is Rs. 11.50 Crores. The budget proposed shall be kept in a separate account and audited annually. Project proponent shall implement the action plan to address the issues raised during public hearing within a time frame of 5 years from the date of grant of EC. In addition to this, PP shall strengthen the existing Primary Health Center (PHC) & Community Health Center (CHC) in the study area for better public health as committed. Compliance status in this regard shall be submitted along with the six monthly compliance to the concerned Regional Office of MoEF&CC.
4.	The establishment of a robust public grievance redressal mechanism to address concerns and complaints from local communities regarding the power plant's operations, environmental impacts, or social issues shall be developed. A Senior Officer shall review the functioning of the mechanism twice in a month.

[C] Miscellaneous	
1.	An Environmental Cell headed by the Environment Manger with postgraduate qualification in environmental science/environmental engineering, shall be created. It shall be ensured that the Head of the Cell shall directly report to the Head of the Plant who would be accountable for implementation of environmental regulations and social impact improvement/mitigation measures.
2.	Consent for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.
3.	All necessary clearance from the concerned Authority, as may be applicable should be obtained prior to commencement of project or activity.

3.1.6.2. Standard

1(d)	**Thermal Power Plants**
Statutory compliance	
1.	Emission Standards for Thermal Power Plants as per Ministry's Notification S.O. 3305(E) dated 7.12.2015, G.S.R.593(E) dated 28.6.2018 and as amended from time to time shall be complied.
2.	Part C of Schedule II of Municipal Solid Wastes Rules, 2016 dated 08.04.2016 as amended from time to time shall be complied for power plants based on Municipal Solid Waste.
3.	MoEF&CC Notifications on Fly Ash Utilization S.O. 763(E) dated 14.09.1999, S.O. 979(E) dated 27.08.2003, S.O. 2804(E) dated 3.11.2009, S.O. 254(E) dated 25.01.2016 as amended from time to time shall be complied.
4.	MoEF&CC Notifications on Water Consumption vide Notification No. S.O. 3305 (E) dated 07.12.2015 read with G.S.R 593 (E) dated 28.6.2018 as amended from time to time shall be complied.
5.	The recommendation from Standing Committee of NBWL under the Wildlife (Protection) Act, 1972 should be obtained, if applicable.
6.	No Objection Certificate from Ministry of Civil Aviation be obtained for installation of requisite chimney height and its siting criteria for height clearance.
Ash content/mode of transporatation of coal	
1.	MoEF&CC Notification issued vide S.O. 1561 (E) dated 21.05.2020 and as amended from time to time shall be complied which inter-alia include use of coal by Thermal Power Plants, without stipulations as regards ash content or distance, shall be permitted subject to compliance of conditions prescribed under (1) Setting Up Technology Solution for emission norms, (2) Management of Ash Ponds and (3) Transportation.
Air quality monitoring and Management	
1.	Flue Gas Desulphurisation System shall be installed based on Lime/Ammonia dosing to capture Sulphur in the flue gases to meet the SO2 emissions standard as per G.S.R. 682 (E) dated 05.09.2022 and amended from time to time.
2.	Selective Catalytic Reduction (SCR) system or the Selective Non-Catalytic Reduction (SNCR) system or Low NOX Burners with Over Fire Air (OFA) system shall be installed to achieve NOX emission standard of 100 mg/Nm3.
3.	High efficiency Electrostatic Precipitators (ESPs) shall be installed in each unit to ensure that particulate matter

	(PM) emission to meet the stipulated standards of 30 mg/Nm3.
4.	Stack with a height of 275 meters shall be provided with continuous online monitoring instruments for SO2, Nox and Particulate Matter as per extant rules.
5.	Exit velocity of flue gases shall not be less than 20-25 m/s. Mercury emissions from stack shall also be monitored periodically.
6.	Continuous Ambient Air Quality monitoring system shall be set up to monitor common/criteria pollutants from the flue gases such as PM10, PM2.5, SO2, NOXwithin the plant area at least at one location. The monitoring of other locations (at least three locations outside the plant area covering upwind and downwind directions at an angle of 120° each) shall be carried out manually.
7.	Adequate dust extraction/suppression system shall be installed in coal handling, ash handling areas and material transfer points to control fugitive emissions.
8.	Appropriate Air Pollution Control measures (DEs/DSs) be provided at all the dust generating sources including sufficient water sprinkling arrangements at various locations viz., roads, excavation sites, crusher plants, transfer points, loading and unloading areas, etc.
Noise pollution and its control measures	
1.	The Ambient Noise levels shall meet the standards prescribed as per the Noise Pollution (Regulation and Control) Rules, 2000.
2.	Persons exposed to high noise generating equipment shall use Personal Protective Equipment (PPE) like earplugs/ear muffs, etc.
3.	Periodical medical examination on hearing loss shall be carried out for all the workers and maintain audiometric record and for treatment of any hearing loss including rotating to non-noisy/less noisy areas.
Human Health Environment	
1.	Bi-annual Health check-up of all the workers is to be conducted. The study shall take into account of chronic exposure to noise which may lead to adverse effects like increase in heart rate and blood pressure, hypertension and peripheral vasoconstriction and thus increased peripheral vascular resistance. Similarly, the study shall also assess the health impacts due to air polluting agents.
2.	Impact of operation of power plant on agricultural crops, large water bodies (as applicable) once in two years by engaging an institute of repute. The study shall also include impact due to heavy metals associated with emission from power plant.
Water quality monitoring and Management	
1.	Induced/Natural draft closed cycle wet cooling system including cooling towers shall be set up with minimum Cycles of Concentration (COC) of 5.0 or above for power plants using fresh water to achieve specific water consumption of 3.0 m3/MWhr.
2.	In case of the water withdrawal from river, a minimum flow 15% of the average flow of 120 consecutive leanest days should be maintained for environmental flow whichever is higher, to be released during the lean season after water withdrawal for proposed power plant.
3.	Records pertaining to measurements of daily water withdrawal and river flows (obtained from Irrigation Department/Water Resources Department) immediately upstream and downstream of withdrawal site shall be maintained.
4.	Regular (at least once in six months) monitoring of groundwater quality in and around the ash pond area including

	presence of heavy metals (Hg, Cr, As, Pb, etc.) shall be carried out as per CPCB guidelines. Surface water quality monitoring shall be undertaken for major surface water bodies as per the EMP. The data so obtained should be compared with the baseline data so as to ensure that the groundwater and surface water quality is not adversely impacted due to the project & its activities.
5.	The treated effluents emanating from the different processes such as DM plant, boiler blow down, ash pond/dyke, sewage, etc. conforming to the prescribed standards shall be re-circulated and reused. Sludge/ rejects will be disposed in accordance with the Hazardous Waste Management Rules.
6.	Hot water dispensed from the condenser should be adequately cooled to ensure the temperature of the released surface water is not more than 5 degrees Celsius above the temperature of the intake water.
7.	Wastewater generation of 4920 KLD from various sources (viz. cooling tower blowdown, boiler blow down, wastewater from ash handling, etc) shall be treated to meet the standards of pH: 6.5-8.5; Total Suspended Solids: 100 mg/l; Oil & Grease: 20 mg/l; Copper: 1 mg/l; Iron:1 mg/l; Free Chlorine: 0.5; Zinc: 1.0 mg/l; Total Chromium: 0.2 mg/l; Phosphate: 5.0 mg/l.
8.	Sewage generation of 75 KLD will be treated by setting up Sewage Treatment plant to maintain the treated sewage characteristics of pH: 6.5-9.0; Bio-Chemical Oxygen Demand (BOD): 30 mg/l; Total Suspended Solids: 100 mg/l; Fecal Coliforms (Most Probable Number): <1000 per 100 ml.
Risk Mitigation and Disaster Management	
1.	Adequate safety measures and environmental safeguards shall be provided in the plant area to control spontaneous fires in coal yard, especially during dry and humid season.
2.	Storage facilities for auxiliary liquid fuel such as LDO and HFO/LSHS shall be made as per the extant rules in the plant area in accordance with the directives of Petroleum & Explosives Safety Organisation (PESO). Sulphur Content in the liquid fuel should not exceed 0.5%.
3.	Ergonomic working conditions with First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.
4.	Safety management plan based on Risk Assessment shall be prepared to limit the risk exposure to the workers within the plant boundary.
5.	Regular mock drills for on-site emergency management plan and Integrated Emergency Response System shall be developed for all kind of possible disaster situations.
Green belt and Biodiversity conservation	
1.	Green belt shall be developed in an area of 33% of the total project with indigenous native tree species in accordance with CPCB guidelines. The green belt shall inter-alia cover an entire periphery of the plant.
2.	In-situ/ex-situ Conservation Plan for the conservation of flora and fauna should be prepared and implemented.
Waste management	
1.	Solid waste management should be planned in accordance with extant Solid Waste Management Rules, 2016.
2.	Toxicity Characteristic Leachate Procedure (TCLP) test shall be conducted for any substance, potential of leaching heavy metals into the surrounding areas as well as into the groundwater.
3.	Ash pond shall be lined with impervious liner as per the soil conditions. Adequate dam/dyke safety measures shall also be implemented to protect the ash dyke from getting breached.

4.	Fly ash shall be collected in dry form and ash generated shall be used in phased manner as per provisions of the Notification on Fly Ash Utilization issued by the Ministry S.O. 5481 dated 31.12.2021, S.O.6169 (E) dated 30.12.2021, S.O.05 (E) dated 01.01.2024 and amendment thereto.
5.	Unutilized ash shall be disposed off in the ash pond in the form of High Concentration Slurry/Medium Concentration Slurry/Lean Concentration Slurry method. Ash water recycling system shall be set up to recover supernatant water.
Monitoring of compliance	
1.	Environmental Audit of the project be taken up by the third party for preparation of Environmental Statement as per Form-V & Conditions stipulated in the EC and report be submitted to the Ministry.
2.	Resettlement & Rehabilitation Plan as per the extant rules of Govt. of India and respective State Govt. shall be followed, if applicable.
3.	Energy Conservation Plan to be implemented as envisaged in the EIA / EMP report. Renewable Energy Purchase Obligation as set by MoP/State Government shall be met either by establishing renewable energy power plant (such as solar, wind, etc.) or by purchasing Renewable Energy Certificates.
4.	Energy and Water Audit shall be conducted at least once in two years and recommendations arising out of the Report should be followed. A report in this regard shall be submitted to Ministry's Regional Office.
5.	The project proponent shall (Post-EC Monitoring): a. send a copy of environmental clearance letter to the heads of Local Bodies, Panchayat, Municipal bodies and relevant offices of the Government; b. upload the clearance letter on the web site of the company as a part of information to the general public. c. inform the public through advertisement within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment, Forest and Climate Change (MoEF&CC) at http://parviesh.nic.in. d. upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same periodically; e. monitor the criteria pollutants level namely; PM (PM10& PM2.5incase of ambient AAQ), SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company; f. submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MoEF&CC, the respective Zonal Office of CPCB and the SPCB; g. submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company; h. inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project and the date of commencement of the land development work.
Corporate Environmental Responsibility (CER) activities	
1.	CER activities will be carried out as per OM No. 22-65/2017-IA.III dated 30.9.2020 or as proposed by the PP in reference to Public Hearing or as earmarked in the EIA/EMP report along with the detailed scheduled of implementation with appropriate budgeting.

3.2. Agenda Item No 2:

3.2.1. Details of the proposal

EXPANSION OF 2X700 MW SUPERCRITICAL COAL BASED THERMAL POWER PLANT BY ADDING 1 X800 MW UNIT by **NABHA POWER LIMITED** located at **PATIALA,PUNJAB**	
Proposal For	Fresh ToR

Proposal No	File No	Submission Date	Activity (Schedule Item)
IA/PB/THE/530410/2025	J-13011/44/2008-IA.II(T)	16/04/2025	Thermal Power Plants (1(d))

3.2.2. Project Salient Features

24.2 Proposed expansion of 2x700 MW supercritical coal based thermal power plant by adding 1x800 MW unit by M/s. Nabha Power Limited located at village Nalash, Rajpura, District Patiala, Punjab – Prescribing of Terms of Reference – regarding.

Details of the proposal, as ascertained from the proposal documents and as revealed from the discussions held during the meeting, are given as under:

24.2.2: M/s. Nabha Power Limited (NPL) is a 100% subsidiary of L&T Power Development Limited (L&TPDL), currently operating a 1400 MW (2 x 700 MW) coal-fired thermal power plant. The proposed project is for expansion of 2x700 MW Nabha thermal Power plant by adding 1x800 MW unit located at Nalash village in Rajpura Tehsil, District Patiala, Punjab, India.

S. No	Facility	Issuing Authority	Details of Letter No.	Date of issuance
1	1320 MW Rajpura Thermal Power Project at village Nalash, District Patiala, Punjab by Mis Nabha Power ltd - Environmental Clearance regarding.	MoEF&CC	No.J-13011/44/2008-IA.II(T)	03.10.2008
2	Amendment in Environmental Clearance for changing configuration from 2*660MW to 2*700 MW coal based thermal power plant at village Nalash, Patiala, Pumjab	MoEF&CC		15.11.2010
3	Extension of validity of environmental clearance.	MoEF&CC		05.02.2014
4	Amendment in Environmental Clearance for changing the specific condition	MoEF&CC		04.07.2022
5	Consent to Operate (CTO) for Stage-I (2*700) under Water Act, Air Act	PPCB		26/03/2025 valid up to 31/03/2030

S. No.	Configuration	Capacity (MW)	As per EC dated 03/10/2008	Implementation Status as on date	Production as per CTO
1	2x700	1400	J-1301l/44/2008-IA.II(T)	Project is under operation	2x700

<table>
<tr><th>S. No.</th><th>Particulars</th><th colspan="2"></th><th>Details</th><th>Remarks</th></tr>
<tr><td>1.</td><td>Total land</td><td colspan="3">436.25 ha [Private: 436.25 ha; Govt.: Nil ha; Agriculture Nil ha]</td><td></td></tr>
<tr><td>2.</td><td>Land use breakup</td><td colspan="3"><table><tr><th>Facilities</th><th>Existing area (In Ha)</th><th>Proposed area (In Ha)</th><th>Total area (In Ha)</th></tr><tr><td>Main Plant</td><td>9.71</td><td>5.67</td><td>15.38</td></tr><tr><td>Coal Handling System</td><td>19.43</td><td>0</td><td>19.43</td></tr><tr><td>Water System</td><td>41.69</td><td>7.28</td><td>48.97</td></tr><tr><td>Switch Yard</td><td>5.67</td><td>4.45</td><td>10.12</td></tr><tr><td>Roads</td><td>19.43</td><td>1.6</td><td>21.03</td></tr><tr><td>Ash pond</td><td>80.9</td><td>0</td><td>80.9</td></tr><tr><td>Railway siding</td><td>14.5</td><td>0</td><td>14.5</td></tr><tr><td>Water supply</td><td>0.81</td><td>0</td><td>0.81</td></tr><tr><td>Ash transport</td><td>0.61</td><td>0.41</td><td>1.02</td></tr><tr><td>Others (please specify)</td><td>67.9</td><td>9.69</td><td>77.59</td></tr><tr><td>Total</td><td>390.15</td><td>46.1</td><td>436.25</td></tr></table></td><td>•BTG & ESP
•CHP& Coal yard
•Reservoir, Cooling towers, CW pump house and DM plant
•Switchyard & Transformer yard
•Inside plant area
•Only Pipeline
•Only Pipeline
•BOP, AHP, FGD, Solar Plant, building including landscaping</td></tr>
<tr><td>3.</td><td>Land acquisition details as per MoEF&CC O.M.dated 7/10/2014, 20/2/2025</td><td colspan="3">Proposed expansion unit will be constructed on the existing land of 436.25 Ha which is already available with Nabha Power Limited</td><td></td></tr>
<tr><td>4.</td><td>Existence of habitation & involvement of R&R, if any.</td><td colspan="3"><u>Project site</u>: No land acquisition required for the proposed expansion project
<u>Study Area</u>:
Habitation<table><tr><th>Village</th><th>Distance from project boundary (km)</th><th>Direction</th></tr><tr><td>Haripur</td><td>Haripur</td><td>Haripur</td></tr><tr><td>Sindhra</td><td>1.78 Km</td><td>NW</td></tr><tr><td>Harna</td><td>0.88 Km</td><td>WNW</td></tr><tr><td>Surl Khurd</td><td>0.27 Km</td><td>W</td></tr><tr><td>Surl kalan</td><td>0.21 Km</td><td>W</td></tr><tr><td>Naina</td><td>1.10 Km</td><td>W</td></tr><tr><td>Ugani</td><td>1.43 Km</td><td>WSW</td></tr><tr><td>Rangian</td><td>0.64 Km</td><td>S</td></tr><tr><td>Nalas</td><td>0.42 Km</td><td>SSE</td></tr><tr><td>Nalas khurd</td><td>1.21 Km</td><td>E</td></tr><tr><td>Kotla</td><td>1.26 Km</td><td>ESE</td></tr><tr><td>Raj majra</td><td>0.81 Km</td><td>E</td></tr><tr><td>Dhuman</td><td>1.85 Km</td><td>ENE</td></tr><tr><td>Saroar</td><td>0.24 Km</td><td>ENE</td></tr><tr><td>Majri</td><td>0.85 Km</td><td>NE</td></tr></table></td><td>R&R is not applicable for the proposed expansion unit as it will be constructed on the available land with Nabha Power Ltd</td></tr>
</table>

S. No.	Particulars		Details	Remarks

Sadharaur	1.62 Km	NE
Loha kheri	1.93 Km	N

Schools

School	Distance from project boundary (km)	Direction
School	0.13 Km	WNW
School	0.31 Km	E
School	0.39 Km	ENE
Elementery School	0.51 Km	N
School	0.54 Km	W
Govt.Middle school	0.61 Km	W
S.B.S Public School	0.75 Km	SSW
Govt High School	1.39 Km	WSW
B.D.S Public School	1.76 Km	SW
Public School	1.91 Km	S
GSS School	1.98 Km	ENE

Health Centre

S. No.	Distance from project boundary (km)	Direction
1.	1.59 Km	E

Mitigation measures:

NPL is committed to implement the necessary mitigation measures to protect habitations/schools/hospitals and to maintain a safe, serene environment. These measures include:

Air Quality Management: NPL will install state-of-the-art emission control systems to maintain strict compliance with the latest emission norms. Efficient Electrostatic Precipitator as well as Flue Gas Desulphurization (FGD) unit will be installed to control Particulate matter, NOx, and Sox emissions. Continuous Emission Monitoring Systems will be installed for the expansion unit to monitor real time values of major pollutants. These measures will ensure that emissions are well within prescribed limits and will not adversely affect.

Ambient Air Quality Monitoring: 4 nos. air quality monitoring stations are already operational at the project boundary. These are strategically located to capture both upwind and downwind air quality data to accurately assess the plant's environmental impact and the parameters are being regularly analysed and reported to statutory authorities.

Greenbelt Development and Physical Barriers: A dense greenbelt, comprising native, pollution tolerant species, has already been developed around the plant boundary. Vegetative buffers act as natural air filters and noise retarders. In addition, windshield curtains

<table>
<tr><th>S. No.</th><th>Particulars</th><th colspan="2">Details</th><th>Remarks</th></tr>
<tr><td></td><td></td><td colspan="2">and dust containment structures are installed at coal and ash handling areas to minimize particulate escape toward habitations.
Dust Suppression Measures: To minimize dust emissions, automatic water sprinkling system provided in the coal handling area for dust suppression. Dust suppression mist cannons are being used to further control particulate matter dispersion. A truck washing facility is already in operation at Ash Silo’s exit area to prevent tracking of dust onto public roads, thus avoiding secondary pollution. The same facility will be extended for the additional Ash Silo area.
Noise Control through Acoustic Enclosures: To minimize the impact of industrial noise in the nearby areas, all high-noise-generating equipment such as compressors, blowers, and turbines will be fitted with acoustic enclosures. These enclosures will reduce noise levels at the source itself.</td><td></td></tr>
<tr><td>5.</td><td>Latitude and Longitude of all corners of the project site.</td><td colspan="2">A. Plant site
<table><tr><th>Point</th><th>Latitude</th><th>Longitude</th></tr><tr><td>A</td><td>30°32'39.45"N</td><td>76°34'54.95"E</td></tr><tr><td>B</td><td>30°33'52.81"N</td><td>76°33'56.13"E</td></tr><tr><td>C</td><td>30°33'52.81"N</td><td>76°33'56.13"E</td></tr><tr><td>D</td><td>30°33'41.77"N</td><td>76°33'44.46"E</td></tr><tr><td>E</td><td>30°33'27.57"N</td><td>76°33'42.03"E</td></tr><tr><td>F</td><td>30°32'52.83"N</td><td>76°33'41.60"E</td></tr><tr><td>G</td><td>30°32'45.23"N</td><td>76°33'41.95"E</td></tr></table>B. Ash pond (2 nos)
<table><tr><th>Point</th><th>Latitude</th><th>Longitude</th></tr><tr><td>A</td><td>30°32'45.9"N</td><td>76°34'41.5"E</td></tr><tr><td>B</td><td>30°33'03.7"N</td><td>76°34'16.6"E</td></tr><tr><td>C</td><td>30°33'22.2"N</td><td>76°33'47.8"E</td></tr></table></td><td>--</td></tr>
<tr><td>6.</td><td>Elevation of the project Site</td><td colspan="2">286 mtr above mean sea level</td><td></td></tr>
<tr><td>7.</td><td>Involvement of Forest land if any.</td><td colspan="2">No</td><td></td></tr>
<tr><td>8.</td><td>Water body (Rivers, Lakes, Pond) Nala, Natural Drainage, Canal etc. exists within the project site as well as study area.</td><td colspan="2"><u>Project site:</u>
Name: Nalash Village
Study area
<table><tr><th>Waterbody</th><th>Distance (Km)</th><th>Direction</th></tr><tr><td>Rajpura Di</td><td>0.30</td><td>E</td></tr></table></td><td>Authenticated HFL data of the water body shall be Furnished.</td></tr>
</table>

S. No.	Particulars	Details	Remarks
		<table><tr><td>stributary</td><td></td><td></td></tr><tr><td>Satluj Yamuna Canal</td><td>6.41</td><td>ENE</td></tr><tr><td>Tangauri choi</td><td>6.16</td><td>ESE</td></tr><tr><td>Bhakra main line canal</td><td>7</td><td>WSW</td></tr></table>	
9.	Archaeological sites monuments/ historical temples etc.	Not Applicable	
10.	Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area	**<u>Study area</u>** **Name of the ESZ/ESA:** **Status of Notification:** **Distance of project from ESZ/ESA: Authenticated map of ESZ projecting distance of ESZ from project site:** Status of NBWL approval: **List of Reserved and protected forests:**	None within 10 Km study area
11.	Facility envisaged in CRZ area (Only for coastal power plant)	Name of the facility in CRZ area Recommendation of CZMA Status of CRZ clearance	Not applicable

S. No.	Particulars		Details	Remarks
12.	Involvement of Critically polluted area/ Severely Polluted Area as per 2018 CEPI score	Involvement of CPA/SPA Proximity of CPA/SPA		Not Applicable

24.2.6: The unit configuration and capacity of existing and proposed project is given as below:

S. No.	Existing power plant configuration and capacity	Proposed power plant configuration and capacity	Total	Technology adopted
1	2x700 (1400MW)	1x800 (800MW)	2200 MW	Supercritical for existing units and Ultra Supercritical for proposed unit

Details	Fuel requirement (MTPA)	Source	Distance from site (Kms)	Mode of Trans-portaction	Coal characteristics (Worst case scenario)	Linkage document
Existing TPP	Coal-5.8 MTPA	SECL/NCL/ CCL/BCCL	1400 (Approx.)	Rail	Ash -37% Sulphur- 0.4% Moisture- 13% GCV – 3700 Kcal/Kg	Long term fuel supply agreement with SECL and NCL
	LDO- 800 KL/annum	Oil Refineries	410 km	Road	NA	Delivery orders as per requirement
	Biomass- 3 MTPA	Local Supplier	200 km	Road	NA	Contracts are in place
Proposed TPP	Coal- 3.35 MTPA	CIL through Shakti- BIV/applicable scheme from Ministry of Coal	1400 (Approx.)	Rail	Ash -39% Sulphur- 0.4% Moisture- 13% GCV – 3600 Kcal/Kg	Coal linkage will be secured from coal companies of CIL through Shakti-BIV/applicable scheme of Ministry of coal
	LDO-600 KL/annum	Oil Refineries	410 km	Road	NA	Delivery orders as per requirement
	Biomass- 0.23 MTPA	Local Supplier	200 km	Road	NA	Additional contract will be signed

24.2.8: Water requirement: Water requirement for Existing (2x700 MW) project is 88560 KLD, which is obtained from Department of irrigation, and permission for the same has been obtained from Govt. of Punjab vide letter dated 09/05/2008. The water requirement for the proposed (1x800 MW) project is estimated as 48,000 KLD, and the permission for drawl of water is obtained from Department of irrigation Vide letter dated 23/09/2010. The water will be transported to the plant site through the existing system.

24.2.9: Power requirement: The power requirement for the proposed project construction is estimated as 10 MW, which will be availed from existing units.

24.2.10: Solid and hazardous waste Management: The details of solid and hazardous waste generation along with its mode of treatment/disposal is furnished as below

S. No.	Type of Waste	Source	Quantity generated (TPA)	Mode of Treatment	Disposal	Remarks
1	Ash	Coal	1172745	Utilization in fly ash- based products, Cement Manufacturing and Ready-Mix concrete	Through Bulkers and Covered Tippers	--
2	Used and Spent oil	Mechanical maintenance	2.64		through Authorized Recycler	--
3	Waste and residues containing oil	Mechanical maintenance	1.075		through Authorized Recycler	--
4	Chemical sludge from wastewater	Wastewater from Chemistry lab			through Authorized Recycler	--

24.2.11: Cost of project: Existing capital cost of project was 10,000 Crores. The capital cost of the proposed project is Rs.7000 Crores and the capital cost for environmental protection measures is proposed as Rs. 1200 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 15 Crores. The proposed project/expansion is expected to generate employment for approximately 1,550 people during the construction phase and around 350 people during the operational phase.

24.2.12: Green Belt Development: Existing green belt has been developed in 129.5 ha area which is about 29.68 % of the total project area of 436.25 ha with total sapling of 2,50,000 Trees. Proposed greenbelt will be developed in 17.5 ha which is about 4.01 % of the total project area. Thus total of 147 ha area (33.69% of total project area) will be developed as greenbelt. A 10 m wide greenbelt around plant boundary and more than 50 meter consisting of at least 3 tiers around the plant is developed as greenbelt and green cover as per CPCB guidelines. Local and native species will be planted with a density of 2500 trees per hectare. Total no. of 50,000 saplings will be planted and nurtured in 17.5 hectares in 3 years.

24.2.13: Ash management for last three years (Only for expansion cases):

Year	Quantity generated (MT)	Quantity utilized (MT)	% of utilization	Balance quantity (MTP)	No of storage silos with capacity
FY 22	19,55,634	19,57,001	100%	0	3 Nos, 1865 MT Capacity of each
FY 23	21,00,746	21,11,294	100%	0	3 Nos, 1865 MT Capacity of each

Year	Quantity generated (MT)	Quantity utilized (MT)	% of utilization	Balance quantity (MTP)	No of storage silos with capacity
FY 24	26,70,394	26,73,013	100%	0	3 Nos, 1865 MT Capacity of each

As per MOEF notification dated 31st December 2021, NPL was having legacy stock of 14,534 MT. Which was cleared in FY22, FY23 and FY24 and at present Nil legacy stock is available with NPL.

A. Fly ash Details for last three years = 52,25,900 TPA

S. No.	Activity (as applicable)	Quantity	Percentage	Remarks (Prior approval of SPCB details to be mentioned)
1.	Fly ash based products (bricks or blocks or tiles or fiber cement sheets or pipes or boards or panels)	2,39,272	5%	
2.	Cement manufacturing	44,94,415	86%	
3.	Ready mix concrete	4,92,213	9%	
	Total	**52,25,900**	**100%**	

B. Bottom ash generation for last three years = 14,99,757 TPA

S.No.	Activity (as applicable)	Quantity	Percentage	Remarks (Prior approval of SPCB details to be mentioned)
1.	Fly ash based products (bricks or blocks or tiles or fiber cement sheets or pipes or boards or panels)	20,044	1%	--
2.	Construction of roads, road and fly over embankment	14,79,713	99%	--
	Total	**14,99,757**	**100%**	--

C. Legacy ash details = 14,534 TPA

S.No.	Activity (as applicable)	Quantity	Percentage	Remarks (Prior approval of SPCB details to be mentioned)
1.	Construction of roads, road and fly over embankment	14,534	100%	--
	Total	**14,534**	**100%**	--

D. Ash Pond details

S.No.	Details of Ash pond	Ash pond 1	Ash pond 2	Total

1.	Status of ash pond (Active / Exhausted (yet t o be reclaimed)/ Reclaimed)	Active	Active	2 dykes Acti ve
2.	Area (Ha)	42	38	80
3.	Dyke height (m)	6	6	NA
4.	Volume (m^3)	22.86	20.98	43.84
5.	Quantity of ash disposed (Metric Tons)	0	0	0
6.	Available volume in percentage (per cent) a nd quantity of ash can be further disposed (Metric Tons)	22,86,000	20,98,000	43,84,000
7.	Expected life of ash pond (number of yea rs and months)	17 Years	17 Years	34 Years
8.	Type lining carried in ash pond: HDPE linin g of LDPE lining or clay lining or No lining	HDPE	HDPE	HDPE
9.	Mode of disposal: Dry disposal or wet slurr y (in case of wet slurry please specify wheth er HCSD or MCSD or LCSD)	LCSD	LCSD	LCSD
10.	Ratio of ash: water in slurry mix (1:_):	1:3	1:3	1:3
11.	Ash water recycling system (AWRS) insta lled and functioning : Yes or No	Yes	Yes	Yes
12.	Quantity of wastewater from ash pond disch arged into land or water body (m^3)	0	0	0
13.	Last date when the dyke stability study was conducted and name of the organization wh o conducted the study:	January'25 b y IIT Ropar	January'25 b y IIT Ropar	January'25 by IIT Ropar
14.	Last date when the audit was conducted and name of the organization who conducted the audit:	October' 24 by IIT Mand i	October'24 by IIT Man di	October'24 by IIT Mandi

E. Proposed ash utilization plan for expansion project:

Details	Existing ge neration (MTPA)	Proposed generation (MTPA)	Total	Utilization (MTPA)	% of utili zation	Balance quantity (MTPA)	No of storage silos with cap acity
Ash (Fly & Botto m)	22,42,333	11,72,745	34,15,078	34,15,078	100%	0	5 Nos with To tal Capacity of 9,595 MT

Ash pond details for proposed project: The Existing ash dykes will be used for expansion unit.

24.2.14: Summary of violation under EIA, 2006/court case/show cause/direction if any, related to the project under consideration shall be furnished.:

A. Summary of court cases

S.	Case No/ Titl	Name of th	Brief summary of the	Last date	Next date	Direction/ A

No.	e	e Court	case	of hearing	of hearing	ction taken by the PP
1	Sadhu Singh & Ors. Vs. NPL & Ors CS/578/2023	Additional Civil Judge Rajpura	Sadhu Singh & Ors. Vs. NPL & Ors. The dispute pertains to suit for permanent injunction filed by the Petitioners to restrain NPL from releasing dirty water mixed with chemicals through water outlet from its boundary wall and further to cut trees inside NPL as their shadow falls on petitioner's land.	07/03/2025	28/05/2025	NPL doesn't discharge any chemical water, as it is a ZLD plant.

B. Summary of Show Cause Notices: Nil

C. Summary of violation: There is no violation under the Environment Protection Act 1986; Van (Sanrakshan Evam Samvardhan) Adhiniyam 1980; and the Wildlife (Protection) Act, 1972

24.2.15: Baseline data collection period (1st December 2024 to 28th February 2025):

Attributes	Parameters	Sampling		Remarks
A. Air		No. of stations	Frequency	--
a. Meteorological parameters	Wind speed & direction (0- 360), temperature, Relative Humidity, Atmospheric Pressure, Rainfall	01	One Season	---
b. AAQ parameters	PM10, PM2.5, SO2, NO2, CO, Mercury	08	One Season	--
B. Noise	Residential, Commercial & Silence Zone Daytime and Night time noise levels	08	One season Twice a day (day & Night)	--
C. Water				
Surface water/Ground water quality parameters	Colour, Odour, Taste, Temperature, Conductivity, Alkalinity, Hardness, TDS, TSS, DO, BOD, COD, Chlorides, Phosphates, Sulphates, etc.	Ground:07 Surface:08	One Season (monthly)	--
D. Land				
Soil quality Land use	a: pH, Conductivity, Nitrogen, Phosphorus, Potassium, Mercury, etc b: habitations, agriculture, barren/waste lands,water bodies, grasslands	Soil: 08 Land Use: Study Area	Once in a season of critical period	--
E. Biological Aquatic Terrestrial	a: Presence of Phytoplankton and zooplanktons at sampling sites, their frequency and density. Macro invertebrates at various sampling sites		One season	--

Attributes	Parameters	Sampling		Remarks
F. Socio-economic parameters	Sample Survey of Core and buffer areas.		One Season	--

24.2.16: Written Submission: PP submitted that an additional Air quality monitoring at three additional locations will be carried out and incorporated in the EIA/EMP report.

3.2.3. Deliberations by the committee in previous meetings

N/A

3.2.4. Deliberations by the EAC in current meetings

Observations and deliberation of the EAC

24.2.17: The Committee observed and noted the following:

i. Instant proposal is for seeking Terms of Reference for expansion of 2 x 700MW Nabha thermal Power plant by adding 1x800 MW unit by M/s. Nabha Power Limited at village Nalash, Rajpura, district Patiala, Punjab.

ii. The existing (2 x 700MW) project was accorded Environmental Clearance vide letter dated 03/10/2008 from the Ministry of Environment & Forests. Consent to Operate (CTO) for the existing units was accorded by Punjab State Pollution Control Board vide letter dated 26/03/2025 and the same is valid up to 31/03/2030.

iii. Total land required for the existing (390.15 Ha) and proposed (46.1 ha) project is 436.25 ha, which is under possession of M/s. Nabha Power Limited. The proposed expansion (1 x 800 MW) shalll be done within the existing total land available with Nabha Power Limited.

iv. No forest land is involved in the proposed project.

v. The EAC also took into consideration the drone survey of the project site and KML file on the Google Earth presented by the project proponent along with DSS of the project site on PARIVESH.

vi. There is no ESZ, National parks, Wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from the project site as ascertained from DSS.

vii. Rajpura Water body and Satluj Yamuna Canal is located at 0.3 Km and 6.41 Km of the project boundary. Authenticated HFL data of the water body as per MoEF&CC O.M. dated 14/02/2022 shall be furnished.

viii. The project site is not located within the Critically Polluted Area (CPA) / Severally Polluted Area (SPA) as per CEPI assessment 2018 of CPCB.

ix. Coal requirement of 5.8 MTPA and 3.35 MTPA will be met through rail transportation for existing (stage-I) and proposed (Stage-II) project, respectively. There will be no road transportation of coal for Stage- I & II project.

x. The water requirement for the proposed project is estimated as 48,000 KLD and the same will be met from Rajpura Distributary and the permission for the same is obtained from Department of irrigation Vide letter dated 23/09/2010. The water will be transported to the plant site through the existing pipeline.

xi. The power requirement for the proposed project construction is estimated as 10 MW, which will be availed from existing units.

xii. The capital cost of the proposed project is Rs.7000 Crores and the capital cost for environmental protection measures is proposed as Rs. 1200 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 15 Crores. The proposed project/expansion is expected to generate employment for approximately 1,550 people during the construction phase and around 350 people during the operational phase.

xiii. Existing green belt has been developed in 129.5 ha area which is about 29.68 % of the total project area of 436.25 ha with total sapling of 2,50,000 Trees. Proposed greenbelt will be developed in 17.5 ha which is about 4.01 % of the total project area. Thus total of 147 ha area (33.69% of total project area) will be developed as greenbelt.

xiv. Elementary schools are located in range of 0.31 Km to 1.98 Km N from the plant boundary. A health centre is located at a distance of 1.59 km from the plant boundary. A dense greenbelt, comprising native and pollution tolerant species, has already been developed around the plant boundary. Vegetative buffers act as natural air filters and noise retarders. In addition, windshield curtains and dust containment structures are installed at coal and ash handling areas to minimize particulate escape toward habitations.

xv. High efficiency Electrostatic Precipitators (ESP) shall be installed for the proposed project, to control the emission of ash particles. The ESP would be so designed that for worst coal firing an outlet dust concentration of 30 mg/Nm3 with one field out of service as stipulated by the regulatory authorities would be achieved. Along with this one Single Flue Chimney is envisaged. A wet limestone-based Flue Gas Desulphurization (FGD) system will be installed to absorb SO2 gas that shall be captured in limestone slurry to produce gypsum.

xvi. Zero liquid discharge (ZLD) will be adopted for the proposed plant using suitable effluent treatment plant, sludge thickener and RO systems.

xvii. Committee deliberated on the existing ash management and observed that the percentage of ash utilization for the FY24 was 100%. For proposed unit the estimated ash generation would be 1172745 MTPA and would be utilized by 100%. The existing ash dykes of an area of 80 ha will also be used for expansion unit and new ash pond is envisaged for the proposed expansion.
xviii. M/s. NPL proposes to achieve 100% ash utilization by selling ash to the surrounding cement plants and brick industries in line with the requirements of MoEF notification.
xix. The committee noted that there is 01 court case (Sadhu Singh & Ors. Vs. NPL & Ors CS/578/2023) with respect to the instant project is pending at Additional Civil Judge, Rajpura.
xx. The baseline data were collected from December 2024 to February 2025. Committee observed that selection of monitoring stations for the air quality monitoring may be enhanced by adding another three locations.
xxi. The EAC noted that the Project Proponent has given an undertaking that the data and information given in the application and enclosures are true to the best of his knowledge and If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.

Recommendations of the Committee
24.2.18: The EAC after detailed deliberations on the information submitted and as presented during the meeting recommended the proposal for grant of ToR for conducting an EIA study for the above project subject to uploading of written submission on PARIVESH Portal under the provisions of the EIA Notification, 2006, as amended along with the following specific ToR in addition to the generic ToRs.

3.2.5. Recommendation of EAC

Recommended (Subject to submission of requisite information/ documents)

3.2.6. Details of Terms of Reference

3.2.6.1. Specific

[A] Environmental Management and Biodiversity Conservation	
1.	A Cumulative Environmental Impact Assessment study of all the existing and proposed projects in the 10-km radius of the proposed project shall be conducted and the same shall be included the in EIA/EMP report. Details of industrial units present in 10 Km radius of the power plant shall be earmarked in map and submitted.
2.	Certified compliance report containing compliance to the prescribed EC conditions for the 2x700 MW (Unit 1) as per the MoEF&CC O.M. dated 08/06/2022 including status of construction of 1x800MW (Unit 2) shall be submitted.
3.	Certificate from concerned District Magistrate/Executive Engineer from the State Water Resources department (or) any officer authorized by the State Government in this regard shall be submitted stating that project site is not located within flood plain corresponding to one in 25 years of flood as per Ministry's O.M. dated 14/02/2022.
4.	All the parameters as mentioned in the National Ambient Air Quality Standards (NAAQS) shall be monitored by the project proponent.
5.	Project proponent shall also obtain recommendations from the State Forest department regarding the impact of project on the nearby Reserved Forests, if any, along with the mitigation measures to be followed.
6.	EIA/EMP study shall take in to consideration the different scenarios arising due to change of coal source, impact on environmental attributes due to change of coal source along with corresponding mitigation measures with EMP budget shall be submitted.
7.	Biodiversity analysis of the project site and study area shall be done through any reputed Government institutions. The study report shall inter-alia include impact of release of cooling tower water on aquatic life and action plan for complying with the mitigation measures shall be submitted.

8.	Project proponent shall commission a study on Hydrology and Hydrogeology of the project site as well as the study area of the project site through a reputed institute/Government organization. The study report along with the action plan for implementing the recommendations of the report shall be submitted along with the EIA/EMP report.
9.	Radioactivity studies along with coal analysis to be provided (sulphur, ash percentage and heavy metals including Pb, Cr, As and Hg). Details of auxiliary fuel, if any including its quantity, quality, storage, etc should also be given.
10.	PP should submit the detailed plan in tabular format (year-wise) for concurrent afforestation and green belt development in and around the project site covering 33 % of the project area. The PP should submit the number of saplings to be planted, names of native species, area to be covered under afforestation & green belt, location of plantation, target for survival rate and budget earmarked for the afforestation & green belt development. The capital and recurring expenditure to be incurred needs to be submitted. Plantation plan should be prepared in such a way that 80% of the plantation to be carried out in first 5 years and for the remaining years the proposal for gap filling. The seedling of height not less than 2 meters to be selected and accordingly cost of plantation needs to be decided.
11.	Action plan for development of three-tier plantation programme (33 % of total project cover area) along the periphery of the project boundary and the coal transportation route shall be provided. PP shall submit concurrent plantation plan.
12.	Detailed action plan shall be prepared for maintenance of air pollution control equipment for proposed units and shall be incorporated in the EIA/EMP report.
13.	Details of Ash management plan as per MoEF&CC notification dated 31/12/2021 & its subsequent amendment for the proposed project shall be submitted. MoU signed for ash utilization with companies shall be submitted.
14.	Action plan for dry ash collection system (Bottom ash and Fly ash) shall be submitted.
15.	Action plan for disposal of ash through High Concentration Slurry Disposal (only in emergency conditions) shall be submitted.
16.	Proper protection measures like high-density polyethylene (HDPE) lining, appropriate height of bund and adequate distance between the proposed Ash pond and water body (minimum 60 meters) etc. shall be planned to reduce the possibility of mixing leachate with any freshwater body for ash pond. A high-density Slurry disposal plan shall be prepared.
17.	Pond and ground water quality (10 locations within 2 km radius of the plant boundary) shall be studied and report be submitted along with EIA/EMP. Action plan for Ground water monitoring stations on all hotspots like schools/hospitals within 2 km radius of the plant boundary be submitted. Baseline Study for Heavy metals in Groundwater, Surface water and soil to be carried out and incorporated in EIA/EMP report.
18.	Details pertaining to water source, treatment and discharge should be provided.
19.	PP shall submit action plan for using treated Sewage/Domestic wastewater for its operations.
20.	PP shall provide the details of wastewater treatment facilities to be installed within its capacity, timeline and budget.
21.	Project Proponent to conduct Environmental Cost Benefit Analysis for the project in EIA/EMP Report.
22.	An action plan shall be prepared for Water shed development within 10 km radius of the plant boundary in consultation with reputed government institution and incorporated in EIA/EMP report.

23.	PP should clearly bring out that what is the specific diesel consumption ~ (Liters/Tonne of total material handled) and steps to be taken for reduction of the same. The year-wise target for reduction in the specific diesel consumption needs to be submitted. PP shall also explore the possibility of using e-vehicles/LNG/CNG-based machinery and trucks for the operation and transportation of Coal and ash and submit an implementation strategy.
24.	PP shall provide the details of transportation of flyash from the plant, transportation route etc. Further, carry out a traffic study for at least one month and provide the impact of transportation along with the mitigation measures.
25.	PP shall submit the action plan to adhere to the Plastic Waste Management Rules 2016 and to adhere Ministry's OM dated 18/07/2022.
26.	Details on renewable energy (solar plant) proposed to be installed as energy conservation measures shall be submitted.
27.	The input parameters for the AAQ modelling and the influence of various combinations of these on the AAQ must be reported in the EIA/EMP Report. In addition to the Wind Rose diagram collected for one season during the preparation of the E.I.A., wind rose diagram for all seasons must be provided using secondary data from sources such as IMD/CPCB etc.
28.	Project proponent shall take all necessary steps to control the Air Quality and take additional mitigation measures for proposed TPP to maintain the Ambient Air Quality values within the limits. The action plan regarding maintaining ambient quality standards (Time weighted average for 24 hours and Annual both) be submitted. Further, project proponent shall submit an undertaking to abide by the provisions of the notification number G.S.R 593 (E) dated 28/06/2018 related to FGD, as amended, and any subsequent amendment thereof pursuant to the outcome of study carried out by CPCB in this regard.
29.	PP shall carryout additional Air quality monitoring of three additional locations and the same shall be incorporated in the EIA/EMP report.
30.	Details of air pollution control devices to be installed in the proposed 1x800 MW TPP along with its maintenance schedule shall be incorporated in EIA/EMP report.
31.	Carbon emission due to TPP and allied carbon sequestration plan be submitted.
32.	PP is advised to implement the 'Ek Ped Maa Ke Naam' Campaign, which was launched on 5th June 2024 on the occasion of the World Environment Day to increase the forest cover across the Country. This plantation drive is other than Green belt development. An action plan in this regard shall be submitted.
[B] Disaster Management	
1.	A Disaster Management Plan shall be prepared and incorporated in the EIA/EMP report.
[C] Socio-economic Study	
1.	The Public Health Action Plan including the provisions for drinking water supply for the local population shall be in the EIA/EMP Report. The status of the existing medical facilities in the project area shall be discussed. Possibilities of strengthening of existing medical facilities, construction of new medical infrastructure etc. will be explored after assessing the needs of the labour force and local populace.
2.	Public consultation (Public Hearing and Written submission) shall be conducted as per the provisions of EIA Notification, 2006 and as amended. As per the Ministry's OM dated 30.09.2020, to address the concern raised during the Public Hearing, the Project Proponent is required to submit the detailed activities proposed with year-wise budgetary provision (Capital and recurring) for 5 years. Activities proposed shall be part of EMP. Tentative no. of project affected families (if any) shall be identified and accordingly appropriate Rehabilitation &Resettlement plan shall be prepared. The recommendation Socio-economic study may also be considered while planning the activities & budget.

3.	A need based Social Impact Assessment Study shall also be carried out and an action plan on its recommendations may also be submitted with budgetary provisions.
4.	Demographic details and land use change details in 10 km area shall be submitted.
[D] Miscellaneous	
1.	Plot the wind rose diagram using the typical meteorological year (TMY) data for the period considered for the study. The monitoring units shall be deployed in the field based on the coverage area ratio and direction of the wind. A mathematical model shall be developed for the local site rather than using the standard model available in software for both air & water quality modelling.
2.	PP shall align its activities to one/few of the Sustainable Development Goals (SDG) and start working on the mission of net zero by 2050. PPs shall update the same to the EAC.
3.	PP shall submit the EIA/EMP report after the plagiarism check using authenticated plagiarism software.
4.	Detailed description of all the court cases along with its current status shall be submitted.
5.	PP should provide in the EIA Report details of all the statutory clearances, permissions, no objection certificates, consents etc. obtained for this project under various Acts, Rules and regulations shall be submitted. Further, all the permissions/MoUs obtained for this project shall be revalidated and submitted along with the EIA/EMP report.
6.	The PP should submit the photograph of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this PP should submit the original test reports and certificates of the labs, which will analyze the samples.
7.	PP should clearly bring out the details of the manpower to be engaged for this project with their roles /responsibilities/designations. In addition to this PP should mention the number and designation of persons to be engaged for the implementation of environmental management plan (EMP). The capital and recurring expenditure to be incurred needs to be submitted.
8.	PP should submit the year-wise, activity wise and time-bound budget earmarked for EMP, occupational health surveillance, and activities proposed to address the issues raised during Public Hearing. The capital and recurring expenditure to be incurred needs to be submitted.
9.	Activities shall be prepared based on the issues arise during public hearing conducted and fresh written submission with defined timeline and budgetary provisions.
10.	Aerial view video of project site and coal transportation route proposed for this project shall be recorded through drone and be submitted.
11.	The PP should ensure that only NABET-accredited consultants shall be engaged for the preparation of EIA/EMP Reports. PP shall ensure that the accreditation of the consultant is valid during the collection of baseline data, preparation of EIA/EMP report and the appraisal process. The PP and consultant should submit an undertaking the information and data provided in the EIA Report and submitted to the Ministry are factually correct and the PP and consultant are fully accountable for the same.
12.	PP should provide in the EIA Report details of the statutory clearances, permissions, no objection certificates, consents etc. required for this project under various Acts, Rules and regulations and their status or estimated timeline after the grant of EC.
13.	All the certificates viz. Involvement of Forestland, distance from the protected area, and list of flora & fauna should be duly authenticated by the Forest Department. The Certificate should bear the name, designation, official seal of the person signing the certificate and dispatch number.
1	The findings of the subcommittee report shall be incorporated in the final EIA/EMP report.

4.	

3.2.6.2. Standard

1(d)	**Thermal Power Plants**
Statutory compliance	
1.	The proposed project shall be given a unique name in consonance with the name submitted to other Government Departments etc. for its better identification and reference.
2.	Vision document specifying prospective long term plan of the project shall be formulated and submitted.
3.	Latest compliance report duly certified by the Regional Office of MoEF&CC for the conditions stipulated in the environmental and CRZ clearances of the previous phase(s) for the expansion projects shall be submitted.
Details of the Project and Site	
1.	Executive summary of the project indicating relevant details along with recent photographs of the proposed site (s) shall be provided. Response to the issues raised during Public Hearing and the written representations (if any), along with a time bound Action Plan and budgetary allocations to address the same, shall be provided in a tabular form, against each action proposed.
2.	Harnessing solar power within the premises of the plant particularly at available roof tops and other available areas shall be formulated and for expansion projects, status of implementation shall also be submitted.
3.	The geographical coordinates (WGS 84) of the proposed site (plant boundary), including location of ash pond along with topo sheet (1:50,000 scale) and IRS satellite map of the area, shall be submitted. Elevation of plant site and ash pond with respect to HFL of water body/nallah/River and high tide level from the sea shall be specified, if the site is located in proximity to them.
4.	Layout plan indicating break-up of plant area, ash pond, green belt, infrastructure, roads etc. shall be provided.
5.	Land requirement for the project shall be optimized and in any case not more than what has been specified by CEA from time to time. Item wise break up of land requirement shall be provided.
6.	Present land use (including land class/kism) as per the revenue records and State Govt. records of the proposed site shall be furnished. Information on land to be acquired including coal transportation system, laying of pipeline, ROW, transmission lines etc. shall be specifically submitted. Status of land acquisition and litigation, if any, should be provided.
7.	If the project involves forest land, details of application, including date of application, area applied for, and application registration number, for diversion under FCA and its status should be provided along with copies of relevant documents.
8.	The land acquisition and R&R scheme with a time bound Action Plan should be formulated and addressed in the EIA report.
9.	Satellite imagery and authenticated topo sheet indicating drainage, cropping pattern, water bodies (wetland, river system, stream, nallahs, ponds etc.), location of nearest habitations (villages), creeks, mangroves, rivers, reservoirs etc. in the study area shall be provided.
10.	Topography of the study area supported by toposheet on 1:50,000 scale of Survey of India, along with a large scale map preferably of 1:25,000 scale and the specific information whether the site requires any filling shall be provided. In that case, details of filling, quantity of required fill material; its source, transportation etc. shall be

	submitted.
Ecology biodiversity and Environment	
1.	A detailed study on land use pattern in the study area shall be carried out including identification of common property resources (such as grazing and community land, water resources etc.) available and Action Plan for its protection and management shall be formulated. If acquisition of grazing land is involved, it shall be ensured that an equal area of grazing land be acquired and developed and detailed plan submitted.
2.	Location of any National Park, Sanctuary, Elephant/Tiger Reserve (existing as well as proposed), migratory routes / wildlife corridor, if any, within 10 km of the project site shall be specified and marked on the map duly authenticated by the Chief Wildlife Warden of the State or an officer authorized by him.
3.	A mineralogical map of the proposed site (including soil type) and information (if available) that the site is not located on potentially mineable mineral deposit shall be submitted.
4.	The water requirement shall be optimized (by adopting measures such as dry fly ash and dry bottom ash disposal system, air cooled condenser, concept of zero discharge) and in any case not more than that stipulated by CEA from time to time, to be submitted along with details of source of water and water balance diagram. Details of water balance calculated shall take into account reuse and re- circulation of effluents.
5.	Water body/Nallah (if any) passing across the site should not be disturbed as far as possible. In case any Nallah / drain is proposed to be diverted, it shall be ensured that the diversion does not disturb the natural drainage pattern of the area. Details of proposed diversion shall be furnished duly approved by the concerned Department of the State.
6.	It shall also be ensured that a minimum of 500 m distance of plant boundary is kept from the HFL of river system / streams etc. and the boundary of site should also be located 500 m away from railway track and National Highways.
7.	Detailed Studies on the impacts of the ecology including fisheries of the River/Estuary/Sea due to the proposed withdrawal of water / discharge of treated wastewater into the River/Sea etc shall be carried out and submitted along with the EIA Report. In case of requirement of marine impact assessment study, the location of intake and outfall shall be clearly specified along with depth of water drawl and discharge into open sea.
8.	Source of water and its sustainability even in lean season shall be provided along with details of ecological impacts arising out of withdrawal of water and taking into account inter-state shares (if any). Information on other competing sources downstream of the proposed project and commitment regarding availability of requisite quantity of water from the Competent Authority shall be provided along with letter / document stating firm allocation of water.
9.	Detailed plan for rainwater harvesting and its proposed utilization in the plant shall be furnished.In addition, wherever ground water is drawn, PP shall submit detailed plan of Water charging activity to be undertaken.
10.	Feasibility of near zero discharge concept shall be critically examined and its details submitted.
11.	Optimization of Cycles of Concentration (COC) along with other water conservation measures in the project shall be specified.
12.	Plan for recirculation of ash pond water and its implementation shall be submitted.
13.	Detailed plan for conducting monitoring of water quality regularly with proper maintenance of records shall be formulated. Detail of methodology and identification of monitoring points (between the plant and drainage in the direction of flow of surface / ground water) shall be submitted. It shall be ensured that parameter to be monitored also include heavy metals. A provision for long-term monitoring of ground water table using Piezometer shall be incorporated in EIA, particularly from the study area.

14.	Hazards Characterization: Past incidents of hazard events within 10km radius of project area with detailed analysis of causes and probability of reoccurrence
Environmental Baseline study and mitigation measures	
1.	One complete season (critical season) site specific meteorological and AAQ data (except monsoon season) as per latest MoEF&CC Notification shall be collected along with past three year's meteorological data for that particular season for wins speed analysisand the dates of monitoring shall be recorded. The parameters to be covered for AAQ shall include PM10, PM2.5, SO2, NOx, CO and Hg. The location of the monitoring stations should be so decided so as to take into consideration the upwind direction, pre-dominant downwind direction, other dominant directions, habitation and sensitive receptors. There should be at least one monitoring station each in the upwind and in the pre - dominant downwind direction at a location where maximum ground level concentration is likely to occur.
2.	In case of expansion project, air quality monitoring data of 104 observations a year for relevant parameters at air quality monitoring stations as identified/stipulated shall be submitted to assess for compliance of AAQ Standards (annual average as well as 24 hrs).
3.	A list of industries existing and proposed in the study area shall be furnished.
4.	Cumulative impacts of all sources of emissions including handling and transportation of existing and proposed projects on the environment of the area shall be assessed in detail. Details of the Model used and the input data used for modelling shall also be provided. The air quality contours should be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any. The windrose and isopleths should also be shown on the location map. The cumulative study should also include impacts on water, soil and socio-economics.
5.	Radio activity and heavy metal contents of coal to be sourced shall be examined and submitted along with laboratory reports.
6.	Fuel analysis shall be provided. Details of auxiliary fuel, if any, including its quantity, quality, storage etc should also be furnished.
7.	Quantity of fuel required, its source and characteristics and documentary evidence to substantiate confirmed fuel linkage shall be furnished. The Ministry's Notification dated 02.01.2014 regarding ash content in coal shall be complied. For the expansion projects, the compliance of the existing units to the said Notification shall also be submitted
8.	Details of transportation of fuel from the source (including port handling) to the proposed plant and its impact on ambient AAQ shall be suitably assessed and submitted. If transportation entails a long distance it shall be ensured that rail transportation to the site shall be first assessed. Wagon loading at source shall preferably be through silo/conveyor belt.
9.	For proposals based on imported coal, inland transportation and port handling and rail movement shall be examined and details furnished. The approval of the Port and Rail Authorities shall be submitted.
10.	Details regarding infrastructure facilities such as sanitation, fuel, restrooms, medical facilities, safety during construction phase etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase should be adequately catered for and details furnished.
Environmental Management Plan	
1.	EMP to mitigate the adverse impacts due to the project along with item - wise cost of its implementation in a time bound manner shall be specified.
2.	A Disaster Management Plan (DMP) along with risk assessment study including fire and explosion issues due to storage and use of fuel should be prepared. It should take into account the maximum inventory of storage at site at any point of time. The risk contours should be plotted on the plant layout map clearly showing which of the

	proposed activities would be affected in case of an accident taking place. Based on the same, proposed safeguard measures should be provided. Measures to guard against fire hazards should also be invariably provided. Provision for mock drills shall be suitably incorporated to check the efficiency of the plans drawn.
3.	The DMP so formulated shall include measures against likely Fires/Tsunami/Cyclones/Storm Surges/ Earthquakes etc, as applicable. It shall be ensured that DMP consists of both On-site and Off-site plans, complete with details of containing likely disaster and shall specifically mention personnel identified for the task. Smaller version of the plan for different possible disasters shall be prepared both in English and local languages and circulated widely.
4.	Details of fly ash utilization plan as per the latest fly ash Utilization Notification of GOI along with firm agreements / MoU with contracting parties including other usages etc. shall be submitted. The plan shall also include disposal method / mechanism of bottom ash along with monitoring mechanism.
Green belt development	
1.	Detailed scheme for raising green belt of native species of appropriate width (50 to 100 m) and consisting of at least 3 tiers around plant boundary not less than 2000 tree per ha with survival rate of more than 85%shall be submitted. Photographic evidence must be created and submitted periodically including NRSA reports in case of expansion projects. A shrub layer beneath tree layer would serve as an effective sieve for dust and sink for CO2 and other gaseous pollutants and hence a stratified green belt should be developed.
2.	Over and above the green belt, as carbon sink, plan for additional plantation shall be drawn by identifying blocks of degraded forests, in close consultation with the District Forests Department. In pursuance to this the project proponent shall formulate time bound Action Plans along with financial allocation and shall submit status of implementation to the Ministry every six months
Socio-economic activities	
1.	Socio-economic study of the study area comprising of 10 km from the plant site shall be carried out through a reputed institute / agency which shall consist of detail assessment of the impact on livelihood of the local communities.
2.	Action Plan for identification of local employable youth for training in skills, relevant to the project, for eventual employment in the project itself shall be formulated and numbers specified during construction & operation phases of the Project.
3.	If the area has tribal population, it shall be ensured that the rights of tribals are well protected. The project proponent shall accordingly identify tribal issues under various provisions of the law of the land.
4.	A detailed CER plan along with activities wise break up of financial commitment shall be prepared in terms of the provisions OM No. 22-65/2017-IA.III dated 30.09.2020.CER component shall be identified considering need based assessment study and Public Hearing issues. Sustainable income generating measures which can help in upliftment of affected section of society, which is consistent with the traditional skills of the people shall be identified.
5.	While formulating CER schemes it shall be ensured that an in-built monitoring mechanism for the schemes identified are in place and mechanism for conducting annual social audit from the nearest government institute of repute in the region shall be prepared. The project proponent shall also provide Action Plan for the status of implementation of the scheme from time to time and dovetail the same with any Govt. scheme(s). CERdetails done in the past should be clearly spelt out in case of expansion projects.
6.	Assessment of occupational health and endemic diseases of environmental origin in the study area shall be carried out and Action Plan to mitigate the same shall be prepared.
7.	Occupational health and safety measures for the workers including identification of work related health hazards shall be formulated. The company shall engage full time qualified doctors who are trained in occupational health. Health monitoring of the workers shall be conducted at periodic intervals and health records maintained. Awareness programme for workers due to likely adverse impact on their health due to working in non-conducive

	environment shall be carried out and precautionary measures like use of personal equipments etc. shall be provided. Review of impact of various health measures undertaken at intervals of two to three years shall be conducted with an excellent follow up plan of action wherever required.
Corporate Environment Policy	
1.	Does the company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.
2.	Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions? If so, it may be detailed in the EIA.
3.	What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the environmental clearance conditions. Details of this system may be given.
4.	Does the company has compliance management system in place wherein compliance status along with compliances / violations of environmental norms are reported to the CMD and the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism should be detailed in the EIA report.
Miscellaneous	
1.	All the above details should be adequately brought out in the EIA report and in the presentation to the Committee.
2.	Details of litigation pending or otherwise with respect to project in any Court, Tribunal etc. shall invariably be furnished.
3.	In case any dismantling of old plants are envisaged, the planned land use & land reclamation of dismantled area to be furnished.

4. Any Other Item(s)

N/A

5. List of Attendees

Sr. No.	Name	Designation	Email ID	Remarks
1	Dr Santoshkumar Hampannavar	Member (EAC)	san**********@yahoo.com	Present
2	Dr Umesh Jagannathrao Kahalekar	Member (EAC)	uka*******@rediffmail.com	Present
3	Shri K B Biswas	Member (EAC)	bis*********@gmail.com	Present
4	Dr Nazimuddin	Member (EAC)	naz*******@nic.in	N/A
5	Shri Mahi Pal Singh	Member (EAC)	mps********@nic.in	Present
6	Sundar Ramanathan	Scientist - F	r.s*****@nic.in	Present
7	Sh Inder Pal Singh Matharu IFS	Chairman, EAC	mat********@gmail.com	Present
8	Sh Lalit Kapur	Member (EAC)	lka********@yahoo.com	Present

9	Sh Savalge Chandrasekhar	Member (EAC)	sav*****@gmail.com	Present
10	Prof Shyam Shanker Singh	Member (EAC)	sin********@gmail.com	Absent
11	Dr Vinod Agrawal	Member (EAC)	vin*****@yahoo.com	Absent
12	Shri Harmeet Sahaney	Member (EAC)	har**********@imd.gov.in	Absent
13	Prof R M Bhattacharjee	Member (EAC)	rmb**********@iitism.ac.in	Present

Ministry of Environment, Forest and Climate Change
Impact Assessment Division
(Thermal sector)

Date of zero draft MoM sent to Chairman: 05/05/2025
Approval by Chairman: 07/05/2025
Uploading on PARIVESH: 07/05/2025

SUMMARY RECORD OF THE TWENTY-FOURTH (24TH) MEETING OF EXPERT APPRAISAL COMMITTEE (EAC) HELD ON 29th APRIL 2025 FOR ENVIRONMENT APPRAISAL OF THERMAL SECTOR PROJECTS THROUGH PHYSICAL MODE.

29TH APRIL, 2025 [TUESDAY]

At the outset, Shri. Inder Pal Singh Matharu (I.F.S Retd.), Chairman, Expert Appraisal Committee (Thermal Power & Coal Mining) welcomed the Expert members & other participants and requested to start the proceeding as per the agenda listed for this meeting. The list of members who participated in the meeting is at **Annexure – I**. The Standard/Generic ToR conditions shall be system generated through the PARIVESH Portal.

Confirmation of the minutes of the 23rd meeting of the EAC (Thermal): The minutes of the 23rd meeting of the EAC (Thermal) held during 04/04/2025 has been confirmed by the EAC.

Agenda No 24.1

24.1: **Proposed expansion of Gadarwara STPP by adding Stage- II: 1600 MW (2x800 MW) with UltraSuper Critical technology having Air Cooled Condenser system to the existing Stage- I: 1600 MW (2x800 MW) by M/s. NTPC Limited at Villages Gangai, Mehrakheda, Chorbarheta, Dongergaon and Kudari, Tehsil Gadarwara, District Narsinghpur, Madhya Pradesh– Environmental Clearance – reg.**

[Proposal No; IA/MP/THE/532566/2025] F.No. J-13012/125/2009-IA. II(T)]

24.1.1: M/s. NTPC Limited has made an online application vide proposal no. IA/MP/THE/532566/2025 dated 17.04.2025 along with copy of EIA/EMP report, Form (CAF, Part A, B & C) and Certified compliance report seeking Environment Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at item no. 1(d) – Thermal Power Plants under Category 'A' of the schedule of the EIA Notification, 2006 and appraised at Central Level. Further, the project does not attract the General Condition of the EIA Notification, 2006.

Name of the EIA consultant: M/s. Greencindia Consulting Private Limited [**NABET/EIA/2326/RA 0297**, valid up to 22/02/2026].

Details of the proposal, as ascertained from the proposal documents and as revealed from the discussions held during the meeting, are given as under:

24.1.2: The proposed project is for expansion of existing Gadarwara Super Thermal Power Project from 1600 MW (2x800 MW; Stage-I) to 3200 MW (Stage-II) with addition of 2 Units of 800 MW each (2x800 MW) based on Ultra Super Critical Technology & Air-Cooled Condenser (ACC), by M/s. NTPC Limited is located at Villages Gangai, Mehrakheda,

Chorbarheta, Dongergaon and Kudari, Tehsil Gadarwara, District Narsinghpur, Madhya Pradesh.

24.1.3: The detail of the Terms of Reference (ToRs) obtained for the expansion project for undertaking EIA/EMP study is furnished as below:

Proposal No. with Date	Consideration	Details	Date of accord	ToR Validity
IA/MP/THE/465459/2024 dated 09.03.2024	12th EAC (Thermal) Meeting held on 29.08.2024.	Terms of Reference	30.09.2024	29.09.2028

24.1.4: The existing Stage I (2x800 MW) project was accorded Environmental Clearance vide letter. no. J-13012/125/2009-IA. II(T) dated 22/03/2013 from Ministry of Environment and Forest, New Delhi. The Environmental Clearance was amended vide letter dated 01.09.2017, 07.02.2019, 22.10.2019, 11.08.2020 & 24.12.2021. The project has been implemented and the unit is under operation. Madhya Pradesh Pollution Control Board (MPPCB), Bhopal accorded consent to Operate for the existing Stage-I (2x800 MW) units, vide Letter No. AW-60741 dated 22.07.2024. The validity of the CTO is up to 30.09.2026.

Details of existing project and its Environment Clearance & consent details along with its implementation status are given as below:

S. No	Facility	Issuing Authority	Details of Letter No.	Date of issuance
1.	2x800 MW (Stage-I) Gadarwara Super Thermal Power Project near villages Gangai, Umaraiya, Mehrakheda, Chorbarheta, Dongergaon and Kudari, in Gadarwara Tehsil, Narsinghpur District, in Madhya Pradesh Environmental Clearance	MoEF&CC	J 13012/ 125/2009-IA.II 1(T)	22.03.2013
2.	Amendment in Environmental Clearance for changing coal source from Talaipalli to Pakri Barwadih coal block and for temporary permission of transportation of coal by road	MoEF&CC		01.09.2017
3.	Amendment in Environmental Clearance for changing coal source from Pakri Barwadih coal block to NCL, WCL nd SECL mines and for extending temporary permission of transportation of coal by road	MoEF&CC		07.02.2019
4.	Amendment in Environmental Clearance for changing the CSR condition	MoEF&CC		11.08.2020
5.	Amendment in Environmental Clearance conditions related to Particulate matter and Radio activity & heavy metals in coal and fly ash	MoEF&CC		24.12.2021

S. No	Facility	Issuing Authority	Details of Letter No.	Date of issuance
6.	Consent to Operate (CTO) for Stage-I (2x800) under Water Act, Air Act	MPPCB	AW-60741	22.07.2024 valid up to 30.09.2026

Implementation status of the existing project:

Configuration	Capacity (MW)	As per EC dated	Implementation Status as on 18.04.2025	Production as per CTO
Stage-I 1600MW (2x800 MW)	1600	22/03/2013	Both the units have been commissioned and are under commercial operation	1600 MW

24.1.5: Certified compliance report from Regional Office: The Status of compliance of earlier EC was obtained from Regional Office, MoEF&CC Bhopal, Madhya Pradesh vide letter no. 4-10/2013(Env) dated 28.06.2024 in the name of M/s. NTPC Limited for Gadarwara STPP Stage-I (2x800MW) project. The Action taken report regarding the partially/non-complied conditions submitted to Regional office, MoEF&CC, Bhopal, Madhya Pradesh vide letter no. GW/EMG/MoEF&CC/2024/02 dated 04.07.2024. PP vide email dated 20.02.2025 submitted Action Taken Report (ATR) w.r.t. conditions marked as partly complied. The ATR submitted by the PP was examined by the RO, Bhopal and submitted detailed analysis and review of ATR vide letter dated 21.04.2025 as mentioned below:

Sr. No.	EC Con -dition no.	EC Condition	Partly compliance reported by MoEF&CC RO, Bhopal vide letter dated 04.07.2024	Updated information/ Action taken as submitted by the PP vide email dated 20.02.2025	Remarks of MoEF&CC, RO Bhopal based on the ATR submitted by PP vide email dated 20.02.2025
A. Specific Condition					
1.	(iii)	Bi-flue stack of 275 m height with flue gas velocity not less than 22 m/s shall be installed and provided with continuous online monitoring equipment's for SOx, NOx and PM2.5 PM10. Mercury emissions from stack may also be monitored on periodic basis.	It is observed that a bi-flue stack of 275 meters height has been constructed. Continuous online monitoring equipment for SOx, NOx and PM has been provided. The PP furnished the monitoring reports as monitored by M/s Mahabal Enviro Engineers Pvt. Ltd. It is noted that the flue gas velocity for boiler unit #1 is less than 22 m/s. Further the values of SOx and NOx at both unit bowlers are exceeding the	ESP for both the units is designed with following parameters: 1) Collection efficiency of 99.97%, 2) Flue gas velocity 22 m/sec. 3) Outlet emission <20mg/Nm^3. These design parameters have been ascertained by Performance test guarantee reports of both the Units. Latest Stack Monitoring report by third party has been submitted where flue gas velocity is more than 22m/s.	Perusal of the stack monitoring report through NABL accredited third party agency M/s Vardhan Enviro lab LLP during June, 2024, prior to certified report were furnished wherein flue gas velocity for boiler unit #1 is less than 22 m/s and the values of SOx and NOx at boiler unit #1 is exceeding the norms. Further, as furnished document w.r.t. NOx and SOx emission, as

Sr. No.	EC Con -dition no.	EC Condition	Partly compliance reported by MoEF&CC RO, Bhopal vide letter dated 04.07.2024	Updated information/ Action taken as submitted by the PP vide email dated 20.02.2025	Remarks of MoEF&CC, RO Bhopal based on the ATR submitted by PP vide email dated 20.02.2025
			norms. In view of the information furnished by the PP and as Per site observations noted above, the stipulated condition is considered as partially complied w.r.t. the said site visit. PARTLY COMPLIED	SO2 emissions: Gadarwara STPS falls in category "C" under thermal plants categorization dated 23.06.2022 issued by MOEF & CC. As per Gazette notification dated 05.09.2022, the stipulated date to meet SO2 emission norms has been extended till 31st December 2026. However, FGD construction at Gadarwara is in advance stage of construction and Unit 1 is likely to be commissioned by Septmber2024 and Unit 2 by March 2025, NOx emissions: For NOx control, tilting tangential boiler firing is provided with low NOx coal nozzles along with 'Closed coupled over fire dampers (CCOFA)' and 'Separated over fire dampers (SOFA)' control at Gadarwara. As per Gazette notification dated 05.09.2022, the cut-off date to meet emissions norms other than SO2 which includes NOx emission has been extended till 31st December 2024.	per MoEF&CC's Gazette notification dated 05.09.2022, the stipulated date to meet SO_2 emission norms has been extended till 31st December 2026 & emissions norms other than SO2 which includes NOx emission has been extended till 31st December 2024. However, neither documents supporting the project falls in category "C" under thermal plants categorization dated 23.06.2022 is not furnished nor NOx values are in permissible limit as per report furnished. Supporting Photographs of FGD construction at Gadarwara is not furnished. **In view of the updated information furnished by the project proponent, the stipulated condition remains same as partly complied.** **PARTLY COMPLIED**
5.	(iv)	No mine void filling or filling up of low-lying areas with fly ash shall be undertaken.	During site visit, the PP informed that Abandoned stone query at Chawarpatha (approximately 50 km away from NTPC Gadarwara Plant) is being filled	As per point number 7 of the OM dated 28.08.2019 of MoEF&CC the amendment in EC is not required for mine void filling and it can be taken up with permission from SPCB.	As per updated information furnished by PP, CTE and CTO obtained from MPPCB towards fly ash filling in abandoned quarry at Chawarpatha. As per

Sr. No.	EC Con -dition no.	EC Condition	Partly compliance reported by MoEF&CC RO, Bhopal vide letter dated 04.07.2024	Updated information/ Action taken as submitted by the PP vide email dated 20.02.2025	Remarks of MoEF&CC, RO Bhopal based on the ATR submitted by PP vide email dated 20.02.2025
			as per the latest guidelines and due permission of MPPCB. In view of the information furnished and as per site observations noted above, the stipulated condition is considered as complied subject to amendment in the stipulated condition. COMPLIED SUBJECT TO AMENDMENT IN THE CONDITION	A copy of permissions obtained from MPPCB Dated 18.10.2022 and 18.12.2022 is submitted. A copy of MoEF&CC OM has also been submitted.	MoEF&CC's OM dated 28.08.2019, para 7. xiii permission can be obtained from mine owner/SPCB for mine void filling. However, Compliance status of stipulations (i-xiii) at para 7 of MoEF&CC's OM dated 28.08.2019 is not furnished. **In view of the updated information furnished by the project proponent, the stipulated condition remains same as partly complied till submission of Compliance status towards stipulations (i-xiii) at para 7 of MoEF&CC's OM dated 28.08.2019.** **PARTLY COMPLIED**
B General Condition					
6.	(ix)	Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Unutilized fly ash shall be disposed off in the ash pond in the form of slurry form. Mercury and other heavy metals (As, Hg, Cr, Pb etc.) shall be monitored in the bottom ash as also in the effluents emanating from the existing ash pond. No ash shall be	During site visit, it is noted that provision of dry collection of fly ash with storage facility (silos) has been made. Periodic monitoring for mercury & heavy metals in the bottom ash is being done by NABL accredited third party agency M/s VardanEnvirolab. The mercury & heavy metals in the bottom ash is found to be within the limit. The	Ash pond effluent report is submitted. Combined effluent report is also submitted. As per point number, 7 of the OM dated 28.08.2019 of MoEF&CC the amendment in EC is not required for mine void filling and it can be taken up with permission from SPCB. A copy of MoEF&CC OM also submitted.	Perusal of the effluent monitoring report through NABL accredited third party agency M/s Vardhan Enviro lab LLP during June, 2024, prior to certified report were furnished and values are within permissible limit. Further, in light of MoEF&CC's OM dated 28.08.2019, para 7xiii, permission can be obtained from mine owner/SPCB for

Sr. No.	EC Con -dition no.	EC Condition	Partly compliance reported by MoEF&CC RO, Bhopal vide letter dated 04.07.2024	Updated information/ Action taken as submitted by the PP vide email dated 20.02.2025	Remarks of MoEF&CC, RO Bhopal based on the ATR submitted by PP vide email dated 20.02.2025
		disposed off in low lying area.	monitoring report of effluents emanating from the existing ash pond is yet to be furnished. The PP informed that abandoned stone query at Chawarpatha (approximately 50 km away from NTPC Gadarwara Plant) is being filled as per the latest guidelines and due permission of MPPCB. However, the PP should take the amendment in the stipulated condition. In view of the information furnished and as per site observations noted above, the overall compliance of stipulated condition is considered as partly complied w.r.t. the said site visit. PARTLY COMPLIED		mine void filling. The copy of CTE and CTO obtained from MPPCB towards fly ash filling in abandoned quarry at Chawarpatha is furnished. However, Compliance status of stipulations (i-xiii) at para 7 of MoEF&CC's OM dated 28.08.2019 is not furnished. **In view of the updated information furnished by the project proponent, the stipulated condition remains same as partly complied.** **PARTLY COMPLIED**
7.	(xv)	Regular monitoring of ground water level shall be carried out by establishing a network of existing wells and constructing new piezometers. Monitoring around the ash pond area shall be carried out particularly for heavy metals (Hg, Cr, As, Pb) and records maintained and submitted to	It is noted that piezometers are installed for regular monitoring of ground water level. The copy of monitoring report is furnished during the visit. Monitoring of heavy metals and water quality monitoring is being done by NABL accredited third party agency M/s Vardan Enviro lab. However, the	Latest third party monitoring report submitted. All the parameters including TDS, Nitrate and Calcium are within the acceptable limits.	Perusal of the ground water monitoring report in area bore well approx. 500 mt. south of ash dyke through NABL accredited third party agency M/s Vardhan Enviro lab LLP during 01.07.2024, prior to certified report were furnished and values are found within permissible limit. **In view of the updated**

Sr. No.	EC Con -dition no.	EC Condition	Partly compliance reported by MoEF&CC RO, Bhopal vide letter dated 04.07.2024	Updated information/ Action taken as submitted by the PP vide email dated 20.02.2025	Remarks of MoEF&CC, RO Bhopal based on the ATR submitted by PP vide email dated 20.02.2025
		the Regional Office of this Ministry. The data so obtained should be compared with the baseline data so as to ensure that the ground water quality is not adversely affected due to the project.	ground water parameters like TDS, Nitrate & Calcium at ash dyke area are exceeding the acceptable limit. In view of the information furnished and as per site observations noted ab ove, the stipulated condition is considered as partly complied w.r.t. the said site visit. PARTLY COMPLIED		**information furnished by the project proponent, the stipulated condition is considered as being complied.** **BEING COMPLIED**
8.	(xxvii)	Noise levels emanating from turbines shall be limited to 85 dB (A) from source. For people working in the high noise area, requisite PPEs shall be provided. Workers engaged in noisy areas such as turbine area, air compressors etc. shall be periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non-noisy/less noisy areas.	Necessary PPE equipment are being provided to the workers. Periodic medical examination is being carried out. The noise monitoring reports as monitored at 4 locations were furnished by the PP. However, the PP should also monitor the noise levels through third party NABL accredited agency near turbine and submit the report. In view of the information furnished and as per site observations noted above, the stipulated condition is considered as partially complied w.r.t. the said site visit. PARTLY COMPLIED	Third party monitoring report of noise level near turbine is submitted.	Perusal of nearby turbine area unit-1 noise levels monitoring report through NABL accredited third party agency M/s Vardhan Enviro lab LLP during 06.07.2024 reveals that the values are within permissible limit. **In view of the updated information furnished by the project proponent, the stipulated condition is considered as being complied.** **BEING COMPLIED**

Sr. No.	EC Con -dition no.	EC Condition	Partly compliance reported by MoEF&CC RO, Bhopal vide letter dated 04.07.2024	Updated information/ Action taken as submitted by the PP vide email dated 20.02.2025	Remarks of MoEF&CC, RO Bhopal based on the ATR submitted by PP vide email dated 20.02.2025
9.	(xxx)	Green Belt consisting of 3 tiers of plantations of native species around plant not less than 100m width shall be raised (except in areas not feasible). The density of trees shall not less than 2500per ha with survival rate not less than 80%.	It is noted that greenbelt is being developed by the PP. The PP stated that around 163 acres of land has already been covered under green belt development. However, at some places the density of green belt may be increased. The green belt area also needs to be increased. In view of the information furnished and as per site observations noted above, the stipulated condition is considered as partly complied w.r.t. the said site visit. PARTLY COMPLIED	As per EC for Gadarwara STPP Stage-I (2x800MW) F.no. J13012/125/2009-IA.II (T) dated 22.03.2013, area of 150 acres (60.70 Ha.) is required to be developed as greenbelt area. NTPC Gadarwara has already completed Green Belt/ Plantation on 163 Acres (65.97 Ha.) of area inside plant premises and 101.17 Ha. Outside the plant premises through Madhya Pradesh Rajya Van Vikas Nigam Limited (MPRVVNL). Hence, total green belt/ Plantation area developed inside and outside NTPC Gadarwara premises is 167.00 Ha. Further, 120.60 Ha. of land area has been identified inside and outside plant premises for development of Greenbelt/Plantation under Stage-II. To increase the density of the greenbelt, Gap filling plantation shall be undertaken as per action plan submitted. Total greenbelt/plantation area including existing (167.14 Ha.) and proposed (120.60 Ha.) is 287.74 Ha. Plantation carried out through MPRVVNL is physically verified every year to ascertain survival rate of 90%. Further, NTPC has applied for carrying out Afforestation on 100 Ha. of parcel lands in Narsinghpur District	As per the updated information furnished by PP, a time bound action plan towards increasing the density of the greenbelt is proposed. **In view of the updated information furnished by the project proponent, the stipulated condition is considered as agreed to comply.** **AGREED TO COMPLY**

Sr. No.	EC Con -dition no.	EC Condition	Partly compliance reported by MoEF&CC RO, Bhopal vide letter dated 04.07.2024	Updated information/ Action taken as submitted by the PP vide email dated 20.02.2025	Remarks of MoEF&CC, RO Bhopal based on the ATR submitted by PP vide email dated 20.02.2025
				under the flagship 'Green Credit Program' of MoEF&CC. The proposal is in advanced stage of approval	
10.	(xxxvi)	The project proponent shall advertise in at least two local new papers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned within seven days from the date of this clearance letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the State Pollution Control Board/Committee and may seen at Website of the Ministry of Environment and Forests at http://envfor.nic.in.	The PP stated that information of Environmental Clearance was published in Two newspapers widely circulated in the region. The copy of advertisement in "DainikBhaskar" dated 27.03.2013 is furnished by the PP. The copy of advertisement as published in "NayiDuniya" is yet to be furnished. In view of the information furnished and as per site observations noted above, the stipulated condition is considered as partly complied w.r.t. the said site visit. **PARTLY COMPLIED**	Advertisement published in "NayiDuniya" is not available since there was a massive fire in the construction office in 2018 and many such official documents were burnt. However, being taken up with "NayiDuniya" head office if the same is available in their archive,	As per updated information furnished by PP, the copy of advertisement of EC as published in "Nayi Duniya" is not furnished as yet, citing loss of the documents in an incident of fire at the construction office in 2018. **In view of the updated information furnished by the project proponent, the stipulated condition is considered as partly complied till submission of documentary proof for the claim.** **PARTLY COMPLIED**

In addition to the above, Status of installation of Flue Gas Desulphurization is furnished as below as per the MoEF&CC Notification dated 05/09/2022:

- Commissioning work is in progress. Electrical & C&I erection balance 8-9% (approx.) works are in progress.
- More than 98% of Mechanical and Civil work has been completed.
- Chimney U#1 & U#2 installation work is completed.
- Connection with existing FG duct for U#2 is completed. U#1 connection expected to be completed by June 2025.
- Gas -in for unit-2 accomplished in Mar-2025.

- Limestone Handling System and Gypsum handling system's >90% work completed. Balance works are in progress.
- Estimated trial operation for U#2- June 2025 and U#1 – Aug 2025
- Complete FGD system commissioning for both the units are expected by September 2025.

24.1.6: Environmental site settings:

S. No.	Particulars	Details	Remarks
1.	Total land	910.706 Ha [Private Land: 746.536 Ha; Govt. Land: 164.170 Ha]	**Land Use:** The land to be used for the proposed expansion is within existing TPP premises which is already under the possession of project proponent.

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td>2.</td><td>Land use break up</td><td>
<table>
<tr><th>S.N.</th><th>Description</th><th>Area Utilised for Stage-I, Ha.</th><th>Area Proposed for Stage-II, Ha.</th><th>Total Area, Ha. (St-I & St-II)</th></tr>
<tr><td>A</td><td>Main Plant</td><td>127.990</td><td>81.820</td><td>209.81</td></tr>
<tr><td>B</td><td>Ash Pond</td><td>157.020</td><td>99.000</td><td>256.02</td></tr>
<tr><td>C</td><td>Greenbelt area within main plant</td><td>7.740</td><td>0.000</td><td>7.740</td></tr>
<tr><td>D</td><td>Total area considered for Greenbelt calculation (A+B+C)</td><td>292.750</td><td>180.820</td><td>473.570</td></tr>
<tr><td>E</td><td>Greenbelt area adjacent to main plant (on NTPC Land)</td><td>58.628</td><td>90.412</td><td>149.040</td></tr>
<tr><td>F</td><td colspan="3">Total Greenbelt Area Provision (C+E) (7.740+149.040=156.780 Ha ~33.1% of 473.570 Ha.)</td><td>156.780</td></tr>
<tr><td>G</td><td>Others- (Railway Corridor/ Siding/ Misc. areas i.e., Outside Roads, Reservoir, Township, misc. facilities etc.)</td><td>213.950</td><td>18.000</td><td>231.950</td></tr>
<tr><td>H</td><td>Total Land Acquired (D+E+G)</td><td>565.328</td><td>289.232</td><td>854.560</td></tr>
<tr><td>I</td><td>ROU Land for Pipeline (Ownership with Farmers)</td><td>56.146</td><td></td><td>56.146</td></tr>
<tr><td>J</td><td>Total Land with ROU (H+I)</td><td>621.474</td><td>289.232</td><td>910.706</td></tr>
</table>
</td><td>Out of total project area of 910.706 Ha, an area of 56.146 Ha has not been acquired but the land is under Right of Use (ROU) or for makeup water pipeline.
*Existing plantation for Stage I has been developed on 163.9 Acre (66.367 ha) in compliance to Stage-I EC requirement of 150 Acres(60.70 Ha). Further 90.412 Ha. has been identified for development of 33% area as green belt considering total area of main plant and ash dyke (473.570 Ha.).</td></tr>
<tr><td>3.</td><td>Land acquisition details as per MoEF&CC O.M. dated 07/10/2014 & 20/02/2025.</td><td>The proposed expansion is within the plant premises area. The land is already under the possession with NTPC Limited. No additional land acquisition is envisaged for the proposed expansion project.</td><td></td></tr>
</table>

<table>
<tr>
<td>4.</td>
<td>Existence of habitation & involvement of R&R, if any.</td>
<td>
Project site: No land acquisition required for the proposed expansion project

Study Area:

<u>Habitation</u>

Within 2 km radius from the project site, 12 villages are located as per the following details:

<table>
<tr><th>Habitation/Village Name</th><th>Distance (km)</th><th>Direction</th></tr>
<tr><td>Chhena Kachhar</td><td>1.85</td><td>SW</td></tr>
<tr><td>Kudari</td><td>0.45</td><td>SE</td></tr>
<tr><td>Dogragaon (Dongargaon)</td><td>0.65</td><td>NE</td></tr>
<tr><td>Chor Barhata</td><td>0.08</td><td>NE</td></tr>
<tr><td>Gagai (Gangai)</td><td>1.2</td><td>SW</td></tr>
<tr><td>Umariya</td><td>0.95</td><td>NW</td></tr>
<tr><td>Mehra Kheda</td><td>0.5</td><td>N</td></tr>
<tr><td>Ghat Pipariya</td><td>1.59</td><td>N</td></tr>
<tr><td>Manakwara</td><td>1.51</td><td>NE</td></tr>
<tr><td>Ratanpura</td><td>1.1</td><td>NE</td></tr>
<tr><td>Tekapar</td><td>1.86</td><td>NE</td></tr>
<tr><td>Kajrota</td><td>1.51</td><td>N</td></tr>
</table>

Within 10 km radius from the project site, a total of 125 villages are present, as per the Survey of India Toposheet and the Census of India 2011 data.

<u>Schools</u>

<table>
<tr><th>School</th><th>Distance (km)</th><th>Direction</th></tr>
<tr><td>Bal Bharti public school (BBPS)</td><td>1.57</td><td>NE</td></tr>
<tr><td>Chor Barhata</td><td>1.58</td><td>NE</td></tr>
<tr><td>Kodari</td><td>2.67</td><td>SE</td></tr>
<tr><td>Dongargaon</td><td>2.46</td><td>NE</td></tr>
<tr><td>Gangai</td><td>1.62</td><td>SW</td></tr>
<tr><td>Chena Kachar</td><td>2.89</td><td>SW</td></tr>
<tr><td>Umariya</td><td>3.6</td><td>NW</td></tr>
<tr><td>Mehra Kheda</td><td>1.93</td><td>N</td></tr>
<tr><td>Ghat pipariya</td><td>3.0</td><td>N</td></tr>
<tr><td>Manakwara</td><td>5.83</td><td>NE</td></tr>
<tr><td>Tekapar</td><td>1.86</td><td>NE</td></tr>
<tr><td>Kajrota</td><td>1.51</td><td>N</td></tr>
</table>

<u>Health Centre</u>

<table>
<tr><th>Hospital</th><th>Distance (km)</th><th>Direction</th></tr>
<tr><td>Jeevan Jyoti Hospital</td><td>1.12</td><td>NE</td></tr>
<tr><td>Gangai</td><td>1.62</td><td>SW</td></tr>
</table>

Some of the Protection Measures to be adopted are listed
</td>
<td>R&R is not required as land is already under possession of the proponent.</td>
</tr>
</table>

		below: **Control of Air Pollution:** • Plantation in and around the Gadarwara STPP to oxygenate nature. • Development of green belt around the plant to reduce air and noise pollution. • Avenue Plantation along roadsides from NTPC Plant to Gadarwara. • Plantation along the boundary wall of Schools and Hospitals • Installation of high-efficiency ESPs and FGD systems to control particulate and SO_2 emissions. • Provision of 275 m height chimney for wider dispersion of emissions over a larger area resulting to reducing in local impacts. • Provision of dust control measures in ash handling and disposal systems to prevent fugitive emission and thrust on increasing ash utilization. • Maintaining moist condition/ponding of the operating dykes, provision of tractor/tanker mounted water sprinkling system for fugitive dust control on hauling roads of ash dykes. • Implementation of covered conveyors and water spray to control coal dust. • Provision of Dust Extraction (DE) and Dry Fog Dust Suppression (DFDS) systems in Coal Handling Plant(CHP). • Provision of water sprinklers in Coal Stock Yard. • Provision of Fog Cannons for control of localized fugitive dust emission. • Covering of loaded ash trucks with tarpaulin to avoid spillage and fugitive emissions • Provision of wheel-washing system for ash transportation vehicles to prevent fugitive dust emission before leaving NTPC premises. • Ambient Air Quality monitoring through third party at sensitive locations apart from continuous monitoring of emissions and ambient air quality. **Control of Water Pollution:** • NTPC Gadarwara is ensuring Zero Liquid Discharge (ZLD) compliance to prevent contamination of nearby water bodies and shall continue to do so. • Provision of Effluent Treatment Plant, Sewage Treatment Plant, Coal Settling Pit, Ash Water Recirculation System etc. for treatment and maximum reuse and recycle of water. • Use of treated wastewater for ash handling and horticulture to conserve freshwater resources. • Groundwater and Surface water quality monitoring at sensitive locations through third party apart from continuous monitoring of effluent. **Health & Sanitation:**	

S. No.	Particulars	Details	Remarks
		• Supply of Fresh drinking water to 6 nearby villages . • Construction of Toilets in the nearby schools and for Public. • Conducting public awareness programs on, World Environment Day, World Ozone Day, World Earth Day, World Water Day etc. • Health checkup camps for Project affected villagers at regular interval. • Conducting "Girls Empowerment Mission (GEM)" Program to benefit the girls from nearby villages, of 10-12 years age group. • Free consultation at NTPC Hospital for the nearby villagers and treatment at concessional rates. • Conducting various awareness programs like Cancer awareness etc. • Garbage collection vehicle provided by NTPC. • Installation and commissioning of Oxygen plant at Gadarwara. • Support to Gadarwara Govt Hospital by providing Ambulance. • Support to Chichli hospital by providing equipment like X-ray machine etc. • Cleanliness and Sanitation drives in villages. • 24x7 Ambulance in PAVs. • Education & Skill Development. • Provision of Classrooms, boundary walls, water coolers, furniture etc. • Distribution of Uniforms, stationary, notebooks, sports kit, shoes etc. • Skill development trainings like driving, computer, sewing etc. • Construction of Anganwadis • Merit Scholarship to PAV students **Infrastructure Development: -** • Eight (8) Community centres constructed in 8 villages. • Road connectivity in PAP villages. • Construction of school rooms, boundary walls, local vegetable market etc. • Construction of Passenger shed in two villages. • Implementation of emergency response plans and safety drills (fire safety) involving local stakeholders. • Renovation and Upgradation of District Hospitals. • Renovation of Old Age Home. • Installation of Solar Lighting Systems. • Water bodies conservation plan as per the recommendations of Watershed Development Study conducted through Guru Ghasidas Vishwavidyalaya.	

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td>5.</td><td>Latitude and Longitude of all corners of the project site.</td><td>

Plant site:

<table>
<tr><th>Point</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>A</td><td>22°52'34.18"N</td><td>78°50'30.68"E</td></tr>
<tr><td>B</td><td>22°51'24.50"N</td><td>78°50'31.31"E</td></tr>
<tr><td>C</td><td>22°51'10.92"N</td><td>78°51'16.39"E</td></tr>
<tr><td>D</td><td>22°51'10.47"N</td><td>78°52'26.94"E</td></tr>
<tr><td>E</td><td>22°51'39.23"N</td><td>78°52'26.57"E</td></tr>
<tr><td>F</td><td>22°52'0.26"N</td><td>78°52'56.87"E</td></tr>
<tr><td>G</td><td>22°52'01.01"N</td><td>78°51'47.60"E</td></tr>
<tr><td>H</td><td>22°52'24.12"N</td><td>78°51'46.77"E</td></tr>
<tr><td>I</td><td>22°52'40.47"N</td><td>78°52'53.26"E</td></tr>
<tr><td>J</td><td>22°53'17.34"N</td><td>78°53'15.79"E</td></tr>
<tr><td>K</td><td>22°54'16.82"N</td><td>78°52'12.34"E</td></tr>
<tr><td>L</td><td>22°54'46.58"N</td><td>78°52'57.37"E</td></tr>
<tr><td>M</td><td>22°54'40.57"N</td><td>78°51'20.65"E</td></tr>
<tr><td>N</td><td>22°54'16.85"N</td><td>78°51'47.74"E</td></tr>
<tr><td>O</td><td>22°53'17.97"N</td><td>78°53'14.20"E</td></tr>
<tr><td>P</td><td>22°52'44.46"N</td><td>78°52'55.55"E</td></tr>
<tr><td>Q</td><td>22°52'40.82"N</td><td>78°52'7.70"E</td></tr>
<tr><td>R</td><td>22°52'37.72"N</td><td>78°51'44.13"E</td></tr>
<tr><td>S</td><td>22°52'29.48"N</td><td>78°51'1.59"E</td></tr>
</table>

Ash Pond: Existing:

<table>
<tr><th>Point</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>A</td><td>22° 52’ 34” (N)</td><td>78° 50’ 30” (E)</td></tr>
<tr><td>B</td><td>22° 52’ 27” (N)</td><td>78° 51’ 23” (E)</td></tr>
<tr><td>C</td><td>22° 52’ 00” (N)</td><td>78° 51’ 20” (E)</td></tr>
<tr><td>D</td><td>22° 52’ 00” (N)</td><td>78° 50’ 32” (E)</td></tr>
</table>

Ash Pond: Proposed:

<table>
<tr><th>Point</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>A</td><td>22° 51’ 59” N</td><td>78° 50’ 31” E</td></tr>
<tr><td>B</td><td>22° 51’ 37” N</td><td>78° 50’ 31” E</td></tr>
<tr><td>C</td><td>22° 51’ 37” N</td><td>78° 51’ 21” E</td></tr>
<tr><td>D</td><td>22° 52’ 00” N</td><td>78° 51’ 21” E</td></tr>
</table>

</td><td></td></tr>
<tr><td>6.</td><td>Elevation of the project site</td><td>378 m above mean sea level</td><td>---</td></tr>
<tr><td>7.</td><td>Involvement of Forest land if any</td><td>Status of stage I Forest Clearance: Not Applicable
Area of the forest land involved: NIL
There is no Forest Land involved in the proposed expansion Project.</td><td>---</td></tr>
</table>

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td>8.</td><td>Water body (Rivers, Lakes, Pond, Nala, Natural Drainage, Canal etc.) exists within the project site as well as study area</td><td>Project site: Gadarwara STPP Stage-II (2x800MW)
Study area: 10 km radius from the project area.
<table><tr><td>S.N.</td><td>Name</td><td>Distance in Km</td><td>Direction</td></tr><tr><td colspan="4">Water Bodies</td></tr><tr><td>1</td><td>Shakkar River</td><td>0.60</td><td>NE-N</td></tr><tr><td>2</td><td>Sitarewa River</td><td>0.90</td><td>SW-N</td></tr><tr><td>3</td><td>Sukha Nadi</td><td>2.30</td><td>SW</td></tr><tr><td>4</td><td>Sapan Nala</td><td>5.00</td><td>SE</td></tr><tr><td>5</td><td>Lendia Nadi</td><td>7.60</td><td>N</td></tr></table>
Inference of the HFL data:
Highest HFL of Shakkar river recorded at Gadarwara monitoring point is 332.47m (MSL) while the Gadarwara STPP is at an elevation of approx. 378m. The project site is located at substantial higher elevation compared to the HFL of the river.</td><td>Water Resource Department vide letter dated 15/10/2024 has given certificate regarding HFL level of Shakkar river at Gadarwara which is 332.47m recorded on 08.09.1999.</td></tr>
<tr><td>9.</td><td>Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area.</td><td>No Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. within the study area of 10 km.

List of Reserved and Protected Forests in study area:
<table><tr><th>S.N.</th><th>Name</th><th>Distance in Km</th><th>Direction</th></tr><tr><td>1</td><td>Chhawargaon Reserve Forest</td><td>4.33</td><td>S</td></tr><tr><td>2</td><td>Chaugan RF</td><td>8.90</td><td>SSE</td></tr><tr><td>3</td><td>Bargaon PF</td><td>9.80</td><td>S</td></tr><tr><td>4</td><td>Prempur Reserve Forest</td><td>8.94</td><td>SSE</td></tr><tr><td>5</td><td>Belkhedi Reserve Forest</td><td>6.72</td><td>SE</td></tr><tr><td>6</td><td>Bijanpur Reserve Forest</td><td>8.78</td><td>SE</td></tr></table></td><td>Certification from Forest Dept. has been submitted.</td></tr>
<tr><td>10.</td><td>Archaeological sites monuments / historical temples etc.</td><td>No Archaeological sites within 10 km of study area</td><td>--</td></tr>
<tr><td>11.</td><td>Facility envisaged in CRZ area (Only for coastal power plant)</td><td>Not Applicable</td><td>--</td></tr>
</table>

S. No.	Particulars	Details	Remarks
12.	Involvement of Critically Polluted Area/Severely Polluted area as per 2018 CEPI score.	No Involvement of Critically Polluted Area/Severely Polluted area.	--

24.1.7: The unit configuration and capacity of existing and proposed project is given as below:

S. N.	Existing Power Plant configuration and capacity	Proposed power plant configuration and capacity	Total	Technology adopted
1.	Stage-I 2 X 800 MW (1600 MW)	Stage-II 2X800 MW (1600 MW)	3200 MW	**Stage-I:** Super Critical with Water Cooled Condenser System **Stage-II:** Ultra Super Critical Technology with Air-Cooled Condenser System

24.1.8: The details of the fuel (coal/gas/LDO) requirement for the proposed project / expansion cum proposed project along with its source and mode of transportation is given as below:

Coal Transportation of existing plant is through Indian Railway from 27.11.2019. Coal transportation for proposed expansion is also envisaged through Indian Railway. The coal unloading shall be done through Wagon Tippler/ Track Hopper.

Details	Fuel requirement (METRIC TONNES PER ANNUM)	Source	Distance from site (Kms)	Mode of Transportation	Coal characteristics (Worst case scenario)	Linkage document
Existing TPP (2x800 MW)	7.56 Million TPA at 90% PLF considering 3704 kcal/kg GCV	SECL	500-650	Rail	Ash – 43(%) Sulphur-0.55 (%) Moisture -14% GCV - 3200Kcal/Kg	Fuel (Coal) supply agreement is available with WCL, NCL, SECL.
		NCL	540	Rail		
		WCL	470-640	Rail		
Proposed TPP	6.10 Million TPA at 90% PLF considering 4400 Kcal/kg	SECL	500-650	Rail	Ash: 29-43 (%) Sulphur: 0.3-0.55(%) GCV:3200-4300 Kcal/Kg	Coal supply shall be tentatively from SECL MCL. CIL letter has been submitted.
		MCL	740-1000	Rail		

24.1.9: Water requirement: Existing Water requirement is 1,12,200 m^3/day, which is obtained from Narmada River and permission for the same has been obtained from Water Resources Department, Govt. of Madhya Pradesh, vide letter dated 19.05.2008 (Water Allocation was given for 125 CUSECS ~ 111.64 MCM which was subsequently reduced to 56 MCM ~ 1,53,425 m^3/day vide letter dated 09.09.2021). The water requirement for the proposed project is estimated as 48,000 m^3/day, out of which 41,224 m^3/day of fresh water requirement will be obtained from the surplus allocation/permission for drawl available under Stage-I and the remaining requirement of 6,776 m^3/day will be met from the additional water allocation/permission for drawl of 11 MCM (30,136 m^3/day) surface water for Stage-II obtained from Water Resources Department, Govt. of Madhya Pradesh, vide letter dated 19.02.2024. The water will be transported to the plant site through pipeline. The Specific water consumption for existing Stage-I and proposed Stage-II project shall be less than the prescribed norm of 3.0 m^3/MWhr.

24.1.10: Power requirement: Existing power requirement of 100MW is obtained from Gadarwara STPP Stage-I. The power requirement for the proposed project is estimated as 124 MW which will be obtained from the own generation.

24.1.11: Baseline Environment Studies

Period	From March 2024 to May 2024	Additional study (if any)
AAQ parameters at 10 locations (min. & max.)	PM_{10} = 36.10 & 91.30 µg/m^3 $PM_{2.5}$ = 14.56 & 32.33 µg/m^3 SO_2 = 5.79 & 13.18 µg/m^3 NO_x = 10.71 & 18.70 µg/m^3 CO = 0.20 & 1.10 mg/m3	---
Incremental GLC Level	**Existing and Proposed Projects** PM_{10} = 1.76 µg/m^3 (Level at 1.10 km in SSE direction) $PM_{2.5}$= 0.85 µg/m^3 (Level at 1.10 km in SSE direction) SO_2 = 6.66 µg/m^3 (Level at 1.10 km in SSE Direction) NO_2 = 5.87 µg/m^3 (Level at 1.10 km in SSE direction) (@100 mg/Nm^3) NO_2 = 17.6 µg/m^3 (Level at 1.10 km in SSE direction) (@300 µg/m^3) **Pollution control measures**: • High efficiency Electrostatic Precipitator (ESP) to control PM emissions from TPP Stacks. • Installation of Flue Gas Desulfurization (FGD) units to reduce SO_2 emissions. • Stack of 275 meter height • Use of Low-NOx burners and Over Fire Air to control NO_x emissions. • Dust suppression system in coal handling and ash handling areas. • Regular maintenance of equipment to ensure efficient functioning. • Continuous Emission & Ambient Air Quality monitoring systems.	---
Ground water quality at **6** locations	pH: 7.10 to 7.84, Total Hardness: 184.9 to 276.2 mg/l, Chlorides: 10.4 to 24.15 mg/l, Fluoride: 0.22 to 0.38 mg/l. **Heavy Metal** Iron: 0.14 to 0.27 mg/l; Zinc (Zn), mg/l: 0.44-0.88, Arsenic (As), mg/l: BDL, Cadmium (Cd), mg/l: BDL, Chromium (Cr^{+6}): BDL, Copper	---

Period	From March 2024 to May 2024	Additional study (if any)
	(Cu), mg/l: BDL, Lead (Pb), mg/l: BDL, Selenium (Se), mg/l : BDL, Mercury (Hg), mg/l: BDL	
Surface water quality at **6** locations	pH: 6.99 to 7.66; DO: 5.20 to 5.80 mg/l and BOD from 5.0 to 8.00 mg/l. COD from 15.0 to 32.0 mg/l	
Effluent generation details and its treatment	**Effluent generation from TPP (Stage-I):** 4,283 m^3/Hr **Effluent requiring Treatment:** 2255 m^3/hr **Treatment plant Capacity (Stage-I):** 4,100 m^3/Hr **Effluent generation from TPP (Stage-II):** 1,025 m^3/Hr **Effluent requiring Treatment:** 205 m^3/hr **Treatment plant Capacity (Stage-II)**: 385 m^3/Hr **Mode of treatment & reuse**: Neutralization for DM plant regeneration wastewater, Settling pit for Coal Settling, Oil Removal, Lamella clarifier/Tube settler. Treated Wastewater will be utilized in Aux. Cooling makeup, dust suppression, ash handling, horticulture etc. within the plant to achieve Zero Liquid discharge (ZLD). Rest quantity of effluents like cooling tower blowdown, Clarifier drainages etc. will be reused recycled mainly for Ash Handling and fugitive dust control purpose within the plant premises maintaining Zero Liquid discharge (ZLD). **Domestic wastewater generation (Stage-I):** 1,200 KLD **Treatment plant Capacity (Stage-I):** 1,200 KLD **Domestic wastewater generation (Stage-II):** 75 KLD **Treatment plant Capacity (STP):** 75 KLD **Mode of Treatment & Reuse:** Domestic wastewater will be treated through Sewage Treatment Plant based on MBBR Technology. Treated water will be utilized for Horticulture, plantation and greenbelt development etc.	
Noise levels (Day and Night)	50.0 dB(A) to 54.6 dB(A) for the daytime and 41.7 dB(A) to 44.8 dB(A) for the Nighttime.	
Traffic assessment study findings	• Traffic study has been conducted at **SH-22** which is approximately **18.7** km from the plant site. • Transportation of raw material (coal) will be done **100** % by rail. • Coal is being transported by rail for the existing units and same is envisaged for coal transportation for the expansion as well. However, for existing units, ash transportation is being carried out via road. During the traffic assessment, the scenario of ash, gypsum and other materials being transported via road is considered for PCU calculations, due to which the additional PCU/day due to project expansion has been predicted in traffic impact assessment.	

<table>
<tr><th>Period</th><th>From March 2024 to May 2024</th><th>Additional study (if any)</th></tr>
<tr><td></td><td>
• Existing PCU is 2439.5(T1), 2646(T2), 5658(T3) PCU/hr on SH22 and existing level of service (LOS) is:
<table>
<tr><th>Road</th><th>V (Volume PCU/hr.)</th><th>C (Capacity PCU/hr.)</th><th>Existing V/C Ratio</th><th>LOS</th></tr>
<tr><td>T1: Road Junction near 220KV substation, Chichi</td><td>2439.5</td><td>15000</td><td>0.16</td><td>A</td></tr>
<tr><td>T2: SH 22, Panari</td><td>2646</td><td>15000</td><td>0.17</td><td>A</td></tr>
<tr><td>T3: SH 22, Gadarwara</td><td>5658</td><td>15000</td><td>0.37</td><td>B</td></tr>
</table>
• PCU load after proposed project will be 2561.48(T1), 2778.3(T2), 6054.06(T3) PCU/hr (Existing) + 285(T1), 231(T2), 574(T3) (Additional) PCU/hr and level of service (LOS) will be:
<table>
<tr><th>Road</th><th>V (Volume PCU/hr.)</th><th>C (Capacity PCU/hr.)</th><th>Proposed V/C Ratio</th><th>LOS</th></tr>
<tr><td>T1: Road Junction near 220KV substation, Chichi</td><td>2846.48</td><td>15000</td><td>0.19</td><td>A</td></tr>
<tr><td>T2: SH 22, Panari</td><td>3009.3</td><td>15000</td><td>0.20</td><td>A</td></tr>
<tr><td>T3: SH 22, Gadarwara</td><td>6628.06</td><td>15000</td><td>0.44</td><td>C</td></tr>
</table>
Due to increase in economic activities, the existing vehicular movements is estimated to rise by 5% at T1 & T2 and by 7% at T3 with the proposed expansion. The increase in traffic load is envisaged due to increase in transportation of Ash, Limestone & Gypsum, water treatment chemicals, auxiliary fuel, and increased employee movement (both contractual and permanent) and economic activities in the area due to secondary employment generation.

* Note: Capacity as per IRC-64:1990 Guidelines for capacity for roads.
Conclusion: The level of service (LOS) will be A(T1), A(T2) & C(T3) after including additional traffic due to the proposed project.
</td><td></td></tr>
<tr><td>Soil Quality at 10 Locations</td><td>Bulk density: 1.0 to 1.80 gm/cm^3; pH range 7.01 to 7.65; Electrical Conductivity (EC): 520 to 880 µmhos/cm; calcium content: 5.6 to 24.6 meq/100g; potassium: 177.2 to 229.4 mg/kg; Nitrogen: 105 to 340 mg/kg; Phosphorous: 45 to 74 mg/kg; Cation Exchange Capacity (CEC): 11.7 to 17.8 meq/100gm; Magnesium: 0.9 to 3.94 meq/100gm;; Organic Matter: 0.98 to 1.46 %.</td><td></td></tr>
<tr><td>Flora & Fauna</td><td>List of schedules I fauna and endangered Flora if any.: Yes
If yes, status of site-specific wildlife conservation plan.
<table>
<tr><th rowspan="2">S. N.</th><th rowspan="2">Scientific Name</th><th rowspan="2">Core Zone</th><th rowspan="2">Buffer Zone</th><th rowspan="2">Common Name</th><th colspan="2">Status</th></tr>
<tr><th>WPA Amendment 2022</th><th>IUCN</th></tr>
</table>
</td><td>Wildlife and Biodiversity Study and conservation plan prepared by M/s.</td></tr>
</table>

<table>
<tr><th>Period</th><th>From March 2024 to May 2024</th><th>Additional study (if any)</th></tr>
<tr><td></td><td>
<table>
<tr><td colspan="7">Mammals</td></tr>
<tr><td>1</td><td>Antilope cervicarpa</td><td>-</td><td>+</td><td>Black Buck</td><td>Schedule I</td><td>LC</td></tr>
<tr><td>2</td><td>Canis aureus</td><td>-</td><td>+</td><td>Jackal</td><td>Schedule I</td><td>LC</td></tr>
<tr><td>3</td><td>Herpestes edwardsii</td><td>-</td><td>+</td><td>Indian Grey Mongoose</td><td>Schedule I</td><td>LC</td></tr>
<tr><td colspan="7">Reptiles & Amphibians</td></tr>
<tr><td>4</td><td>Python molurus</td><td>-</td><td>+</td><td>Indian Python</td><td>Schedule I</td><td>NT</td></tr>
<tr><td>5</td><td>Naja naja</td><td>-</td><td>+</td><td>Indian Cobra</td><td>Schedule I</td><td>LC</td></tr>
<tr><td colspan="7">Birds</td></tr>
<tr><td>6</td><td>Bubo bubo</td><td>-</td><td>+</td><td>Eurasian Eagle Owl</td><td>Schedule I</td><td>LC</td></tr>
<tr><td>7</td><td>Pavo cristatus</td><td>-</td><td>+</td><td>Peafowl</td><td>Schedule I</td><td>LC</td></tr>
<tr><td>8</td><td>Tachy spizabadia</td><td>-</td><td>+</td><td>Shikra</td><td>Schedule I</td><td>LC</td></tr>
</table>
Wildlife Conservation Plan has been prepared for Schedule-I species and it has been submitted to Chief Wildlife Warden for approval vide letter no. 1049/EMG/2025/016 dated 07/02/2025, 1049/EMG/2025/017, dated: 24/02/2025 & 1049/EMG/2025/034 dated: 05/04/2025.
Approval of the Wildlife conservation plan is in process.
</td><td>Greencindia Consulting Pvt. Ltd.- Ghaziabad</td></tr>
<tr><td>Hydrogeology study</td><td>Recommendations of the Hydrogeology study:
<table>
<tr><th>S. N.</th><th>NIH Recommendation</th><th>NTPC Gadarwara Action Plan</th><th>Estimated Expenditure & Target Date</th></tr>
<tr><td>1)</td><td>Regular monitoring of the mentioned surface water bodies may be carried out (both for pre and post monsoon seasons</td><td>a) Regular monitoring of surface water bodies surrounding NTPC Gadarwara is being done through NABL accredited laboratory, both for pre and post monsoon seasons).

b) Contract for monitoring of Hydrogeology of the area has also been initiated in which the locations according to scientific methodology shall be covered for both pre and post monsoon seasons. Thus, pre-monsoon and post-monsoon monitoring shall be done annually.</td><td>Rs.1.29 Lakhs for Surface and Groundwater monitoring

Approx. Rs.26 lakhs for Hydrogeology Study and Rs.1.29 Lakhs for Surface and Groundwater monitoring</td></tr>
<tr><td>2)</td><td>To analyse the possible impact of</td><td>a) Regular monitoring of ground water quality of</td><td>Covered in point no. 1</td></tr>
</table>
</td><td>NIH Roorkee</td></tr>
</table>

Period	From March 2024 to May 2024				Additional study (if any)
		the operation of STPP Gadarwara on the ground water quality of the study area, through long term changes in ground water quality, ground water quality may be regularly monitored both in pre and post monsoon seasons for the mentioned locations.	area surrounding NTPC Gadarwara is being done through NABL accredited laboratory, for both for pre and post monsoon seasons. b) Ground water impact assessment study covered in the scope of work of the hydrogeology study as mentioned at Sl. no 1(a).		
	3)	In order to study the impact of the STPP Gadarwara on changes in ground water levels in the study area, ground water levels may be regularly monitored both in pre and post monsoon seasons for the various locations mentioned.	a) Monitoring of Ground water levels is being done around ash dyke area during pre and post-monsoon seasons through institute of repute during hydrogeology study of the area. b) Twelve (12) piezometers shall be installed around ash dyke, plant and township area to monitor the ground water level as well as quality around NTPC Gadarwara Plant premises.	Approx. Rs.24 lakhs, Target for Completion by December 2025	
	4)	It is recommended that piezometers may be developed at about 5-6 locations around the ash pond areas for regular monitoring of the water levels and water quality, as has already been recommended in the study for the year 2022.	Actions have been initiated for procurement of 12 nos. of new piezometers out of which 06 nos. will be installed in the water contour path around the ash pond areas for regular monitoring of the water levels and water quality by December 2025.	Covered in Point no. 3	
	5)	Restoration of Ponds in the study area	Restoration work in 4 degraded ponds (Chor-Baretha, Gangai, Chirriya, Sukri) according to recommended methodology of the study area of Watershed Development Study conducted by Guru Ghasidas	Approx. Rs.35 Lakhs Target date of Completion – December-26	

<table>
<tr><th>Period</th><th>From March 2024 to May 2024</th><th>Additional study (if any)</th></tr>
<tr><td></td><td>
<table>
<tr><td></td><td></td><td>Vishwavidyalaya in the 10 Km radius of NTPC Gadarwara shall be taken up.</td><td></td></tr>
<tr><td>6)</td><td>A detailed study on rainwater harvesting needs to be carried out assessing not only the rainwater harvesting potential of the study area but also assessing the existing recharge and storing potential of the present recharge and storage structures present in the study area and their adequacy for recharging the whole rainwater harvesting potential. Additional rainwater harvesting structures, if needed, can be suggested only then.</td><td>a) Rainwater Harvesting Study has already been carried out and the rainwater harvesting scheme suggested in its report has been approved by CGWB. RWH study recommendations have been implemented by construction of 30 rainwater harvesting pits to recharge the rainwater directly.

b) Scheme is being implemented to redirect the rainwater in the plant area to the raw water reservoir which can be reused in the Power Generation Cycle.

Further study will be carried out at an interval of 5 years according to the changing landscape / catchment area, groundwater regime.</td><td>Rs 3.4 Lakh for study of RWH

Rs 41 Lakh for construction & implementation of 30 nos RWH pits.

Rs. 50 Lakhs (approx.) contracts awarded for diversion of all the stormwater falling in the plant area Raw Water reservoir inside plant.

Target for completion- December 2025

Rs 10 Lakh for future RWH studies.</td></tr>
</table>
</td><td></td></tr>
<tr><td>Impact study on bio-diversity and aquatic ecology</td><td>
The study concluded that the proposed project would have only minimal impact on the nearby area. The location where Power Plant is proposed has no habitat for any critical species. The biodiversity indices show good diversity in and around area. Low species reported in some groups during survey may be due to off season variability, which can be higher during peak season.

Recommendations of study report with action plan are as given below:
<table>
<tr><th rowspan="2">S. N.</th><th rowspan="2">Potential Location/Selection of location for activity</th><th rowspan="2">Action Plan</th><th rowspan="2">Estimated Cost (in Rs.)</th><th colspan="3">Implementation in Year(s)</th></tr>
<tr><th>1st Yr</th><th>2nd Yr</th><th>3rd Yr</th></tr>
<tr><td colspan="7">Activity: Development of a Biodiversity Park</td></tr>
<tr><td>1.</td><td>Large Spaces/areas in the vicinity of the thermal plant, which are not used for any plant activity but</td><td>1. Cleaning of the projected area. Preparation of the land (area) according to the need.</td><td>60,00,000 /-</td><td></td><td></td><td>√</td></tr>
</table>
</td><td>*Consultant details:* Department of Zoology, University of Lucknow</td></tr>
</table>

Period	From March 2024 to May 2024							Additional study (if any)
		are part of the plant area.	2. After settlement prepare it for digging for major constructions; such as pathways, ponds, pond outer lining, etc. 3. Last stage cleaning for final establishments. 4. Planting of endangered plant species. 5. Creating ponds and development of pathways. 6. Establishment of Information boards, maps,etc. 7. Establishments of path lightings, related wirings, and connections and Final cleaning					
	Activity: Development of a Butterfly Garden							
	2.	In any degraded part of plant, an area with high invasive plants, in the residential campus as well as in the gardens of working plant	1. Cleaning of the projected area. Preparation of the land (area) 2. Plantation of host and nectar plants such as curry tree, lemon, oleander, tropical milkweed, Mussaenda, Ixora, Oxalis etc. 3. Preparing an area for	2,00,000/-	√			

Period	From March 2024 to May 2024							Additional study (if any)
			mud puddling, shade, and moist areas/small ponds. 4. Continuous maintenance and sustenance of the garden area					
	Activity: Survey and protect heritage trees in the area							
	3.	The area around temples, in sacred groves in the 10km radius of the plant area.	1. Surveying the area to find the heritage tree. (Heritage Trees are trees that the City Council has formally recognized for their unique size, age, historical or horticultural significance, and Eligibility criteria). The main criteria for considering a tree as a heritage tree are its size, form, shape, age (more than 100 years old trees), color, and rarity 2. Identification of the trees and documenting the details of heritage trees in the area. 3. Providing interventions such as metal fencing of the Tree and, an information	40,000/- per tree (cost will be based on the number of trees)			√		

<table>
<tr><th>Period</th><th>From March 2024 to May 2024</th><th>Additional study (if any)</th></tr>
<tr><td></td><td>
<table>
<tr><td></td><td></td><td>board (with details of the importance of the tree) for protection of the heritage trees.</td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="7">Activity: Restoration of wetlands of selected villages in a radius of 10km of the thermal plant</td></tr>
<tr><td>4.</td><td>4 (a).Chirriya Talaab and

4 (b). Bada Talaab near Raja ka Mahal</td><td>1. Restoration of the wetland by removal of water Hyacinth, and planting native aquatic plants.

2. Stopping drainage openings in wetlands,

3. Beautification (putting information boards, seating bench) for tourism.</td><td>10,000,00 /- (for one wetland)</td><td></td><td></td><td>√</td></tr>
</table>
</td><td></td></tr>
<tr><td>Risk assessment study</td><td>Recommendations of Risk assessment report with mitigation measures:
<table>
<tr><th rowspan="2">S. N.</th><th rowspan="2">Items Proposed</th><th colspan="5">Financial Outlay (in Cr.)</th><th rowspan="2">Total Financial Outlay (in Cr.)</th></tr>
<tr><th>1st Yr</th><th>2nd Yr</th><th>3rd Yr</th><th>4th Yr</th><th>5th Yr</th></tr>
<tr><td>1</td><td>Fire service facility including
• Smoke and fire detection alarm system
• Water supply
• Fire hydrant and nozzle installation
• Foam system
• Water fog and sprinkler system
• Mobile Firefighting equipment
• First aid appliances</td><td>10.5</td><td>8</td><td>2</td><td>2</td><td>2</td><td>24.5</td></tr>
<tr><td>2</td><td>Periodic maintenance of all protective and safety equipment</td><td>1.5</td><td>1.5</td><td>1.5</td><td>1.5</td><td>1.5</td><td>7.5</td></tr>
<tr><td>3</td><td>Installation of Windsocks/wind cock</td><td>0.01</td><td>--</td><td>--</td><td>--</td><td>--</td><td>0.01</td></tr>
</table>
</td><td>Consultant details:
NABET Accredited EIA Consultant M/s Greencindia Consulting (P) Ltd, Ghaziabad, Uttar Pradesh.</td></tr>
</table>

Period	From March 2024 to May 2024	Additional study (if any)

4	Periodical training/awareness to work force	0.25	0.25	0.25	0.30	0.30	1.35
5	Periodic mock drills	0.05	0.05	0.05	0.05	0.05	0.25
6	Signboards including emergency phone numbers and no smoking signs	0.12	0.12	0.12	0.12	0.20	0.68
7	Proper earthing	2.5	2.5	1.5	0.5	0.5	7.5
8	Emergency lighting	2.5	2.5	1.5	0.5	0.5	7.5
Total (Fifty-Two Crores Twenty-Nine Lakhs)							**52.29**

Details of Hazards and mitigations measures given in Chapter-7.

24.1.12: The details of solid and hazardous waste generation along with its mode of treatment/disposal is furnished as below:

S.N.	Type of Waste	Source	Quantity Generated in FY 2024-25	Mode of Treatment	Disposal	Remarks
Hazardous Waste						
1	Empty barrels/container / liners contaminated	Operation and Maintenance works (O&M works)	806 Nos.	-	Disposal through Registered Recycler, TSDF	-
2	Used or spent Oil	O&M works	10 MT	-	Through authorized recycler	
3	Insulation waste	(O&M works)	100 MT	-	Disposal through TSDF	-
Non-Hazardous Waste						
1.	Ferrous (iron Steel Scrap)	Main Plant	480 MT	-	Through scrap recyclers	-
2.	Biodegradable waste	Township	110 MT	-	Composting	

24.1.13: Public Consultation:

Details of advertisement given	26/11/2024 & 28/11/2024
Date of public consultation	30/12/2024
Venue	Police Station Dongargaon, village Mehrakheda, NTPC Station Bhawan, near Gadarwara, Narsinghpur
Presiding Officer	Sub Divisional Magistrate

Major issues raised	Employment to local people, skill development, women empowerment, renovation of school building, village Road construction, bridge on Shakkar and Sitarewa river, check dam, plantation in villages and pollution from ash and coal dust.
No. of people attended	435

Action plan as per MoEF&CC O.M. dated 30/09/2020 to address the concerns of public consultation:

Sr. No	Key Area Identification for Activities Based on Public Needs Highlighted During Public Hearing	Proposed Expenditures year wise (Rs. In Crores)					Total Proposed Expenditure (Rs. In Crores)	Physical Targets
		1st Year	2nd Year	3rd Year	4th Year	5th Year		
A	**Educational Initiatives**							
1	Scholarships for meritorious students	0.10	0.12	0.16	0.12	-	0.50	Identify and award scholarships to at least 10 deserving students annually from nearby villages to encourage higher education. Scholarships to be continued every academic year till project completion.
2	Support for extracurricular activities							Organize annual sports tournaments, yoga events, debate, and cultural programs across primary schools. Provide necessary kits and awards to encourage student participation of PAVs.
3	Construction of Additional Classrooms							Construct 4 standard classrooms (each ~600–700 sq. ft) in primary government schools with complete furnishing. Target to complete within 4 years.
4	Principal Room + Staff Room Construction							Construct 1 principal office and 1 staff common room (~250–300 sq. ft each) in each identified school to improve administration and teacher facilities.
5	Library + Computer Room Setup							Establish 1 well-equipped library (books, shelves) and 1 computer lab (5–10 computers) in targeted schools to enhance digital learning and reading habits.

Sr. No	Key Area Identification for Activities Based on Public Needs Highlighted During Public Hearing	Proposed Expenditures year wise (Rs. In Crores)					Total Proposed Expenditure (Rs. In Crores)	Physical Targets
		1st Year	2nd Year	3rd Year	4th Year	5th Year		
6	Toilets (Boys & Girls separately)							Construct 2 separate toilet blocks (Boys & Girls) with safe sanitation facilities in each identified school, ensuring hygiene and gender safety.
7	Assembly Hall/ Multipurpose Room							Develop 1 semi-open/covered multipurpose assembly hall (~1000 sq. ft) in selected school for morning assemblies, events, and indoor activities.
8	Playground Development							Level and develop playgrounds (~5000–7000 sq. ft) with basic sports facilities like football posts, volleyball court, and swings for students' physical development.
	Sub Total	0.10	0.12	0.16	0.12	-	0.50	
B	**Community Health Initiatives**							
9	Organization of Health Camps (Regular, Quarterly) in 07 PAVs							Conduct 4 health camps annually in each of the 7 PAV villages. Basic checkups, free medicines, and specialist consultations will be provided till December 2029.
10	Medical Facilities/Support to Nearby Hospitals (equipment/aid)							Provide essential medical equipment (wheelchairs, stretchers, BP monitors) to 2–3 identified nearby hospitals. Strengthen basic healthcare delivery infrastructure by 2026.
11	Swachhta Pakhwara Awareness Campaigns (Cleanliness Drives, Posters, Wall Paintings)	0.10	0.14	0.16	0.20	-	0.60	Organize cleanliness drives and awareness events twice a year in all 7 villages. Cover schools, panchayat areas, and market places with educational wall paintings and posters.
12	Maternal and Child Health Awareness Programs (nutrition, immunization drives)							Conduct focused nutrition and immunization awareness camps quarterly for pregnant women, new mothers, and children in all 7 villages. Target at least

Sr. No	Key Area Identification for Activities Based on Public Needs Highlighted During Public Hearing	Proposed Expenditures year wise (Rs. In Crores)					Total Proposed Expenditure (Rs. In Crores)	Physical Targets
		1st Year	2nd Year	3rd Year	4th Year	5th Year		
								100+ beneficiaries annually.
13	Safe Menstrual Hygiene Awareness and Distribution of Sanitary Kits							Organize bi-annual sessions for adolescent girls and women across all 7 villages. Distribute free sanitary kits and educate about menstrual hygiene management.
14	Preventive Health Posters, IEC Material Distribution (leaflets, banners)							Print and distribute preventive healthcare leaflets and banners every year. Door-to-door outreach and campaign coverage for over 5000+ people across villages.
	Sub Total	0.10	0.14	0.16	0.20	-	0.60	
C	**Sustainable Livelihood and Women Empowerment**							
15	Skill Development Training for Youths (Technical and Non-Technical Courses)							Conduct 6–8 batches of technical and soft skills training covering 300+ youths across 7 villages. Courses include electrician, tailoring, computer basics, hospitality, etc., completed by 2030.
16	Capacity Building Workshops for SHGs (Entrepreneurship, Financial Literacy)	0.05	0.10	0.12	0.17	0.11	0.55	Organize 12–15 workshops for SHG groups focused on entrepreneurship skills, financial literacy, digital transactions, and business startup training.
17	Agricultural Training Programs for Farmers (Modern Farming, Drip Irrigation, Organic Farming Techniques)							Conduct at least 8 agricultural camps and field demonstrations targeting 200+ farmers. Topics include modern crop practices, drip irrigation, and organic farming techniques.
18	Tools, Equipment, and Starter Kits for SHGs and Farmers							Distribute starter kits like sewing machines, vegetable seed kits, and drip sets to 100+ trained beneficiaries (SHGs and farmers) for immediate livelihood activities.

Sr. No	Key Area Identification for Activities Based on Public Needs Highlighted During Public Hearing	Proposed Expenditures year wise (Rs. In Crores)					Total Proposed Expenditure (Rs. In Crores)	Physical Targets
		1st Year	2nd Year	3rd Year	4th Year	5th Year		
19	Exposure Visits / Field Tours for SHGs and Farmers to Model Villages / Krishi Vigyan Kendras							Arrange 2 exposure visits per year for selected SHGs and farmers to model villages, farms, and Krishi Vigyan Kendras to showcase best practices.
20	Mobilization, IEC Activities (Banners, Pamphlets, Motivation Sessions)							Organize mobilization drives and distribute over 5000+ leaflets, banners, and pamphlets in villages to ensure maximum participation in trainings and awareness sessions.
	Sub Total	0.05	0.10	0.12	0.17	0.11	0.55	
D	**Community Rural Infrastructure Development**							
21	Pitching and Retaining Wall at Ghatpipariya (100 meters)	0.2	0.8	0.4	1.0	1.0	3.40	Construction of a 100-meter-long pitching and retaining wall at Ghatpipariya. Target completion by July 2028.
22	Cow Sheds (03) at Dongargaon, Chichli & Gangai							Construction of 3 cow sheds at Dongargaon, Chichli, and Gangai. Target completion by July 2028.
23	Ponds (02) at Chorbarheta & Dongargaon							Construction of 2 ponds at Chorbarheta and Dongargaon. Target completion by July 2028.
24	Check dams on Shakkar River & Sitarewa River							Construction of check dam (approx.100m width) on Shakkar and Sitarewa rivers. Target completion by:Apr-2030
25	**Road Construction:** Ghatpipariya to Kahartola (1.5 km)	0.20	0.60	1.20	1.20	0.65	3.85	Construction of a 1.5 km road connecting Ghatpipariya to Kahartola. Target completion by April 2030.
26	Manakwara to Adiwasi Tola (950 m)							Construction of a 950-meter road connecting Manakwara to Adiwasi Tola. Target completion by April 2030.

Sr. No	Key Area Identification for Activities Based on Public Needs Highlighted During Public Hearing	Proposed Expenditures year wise (Rs. In Crores)					Total Proposed Expenditure (Rs. In Crores)	Physical Targets
		1st Year	2nd Year	3rd Year	4th Year	5th Year		
27	Gangai to NTPC Main Road (300 m)							Construction of a 300-meter road from Gangai to the NTPC main road. Target completion by April 2030.
28	Construction of Drainage (200 meters) at Village Dongargaon							Construction of a 200-meter drainage system at Village Dongargaon. Target completion by April 2030.
29	No. of Solar High-mast Lights (07 nos.) and Streetlights (70 nos.)	0.30	0.30	-	-	-	0.6	Installation of 7 Solar High-mast Lights and 70 nos. streetlights across various villages. Areas to be covered: Gangai, Chorbarheta, Dongargaon, Kudari, Mehrakheda, Umariya, Ghatpipariya, and Manakwara.
	Sub Total	**0.7**	**0.7**	**1.6**	**2.2**	**1.65**	**7.85**	
E	**Development of Playgrounds for Sports**							
30	Construction of an open gym at village Gangai and a playground at villages Chorbarheta and Manakwara.	0.50	0.50	-	-	-	1.0	Construction of an open gym at village Gangai. Construction of playgrounds at Chorbarheta and Manakwara. Target completion by October 2027.
31	Providing sports materials at Chorbarheta and promoting cultural sports in nearby villages.							Providing sports materials at Chorbarheta and promoting cultural sports in nearby villages. Target completion by October 2027.
	Sub Total	0.50	0.50	-	-	-	1.0	
F	**Community Development for various activities at village level**							
32	Construction of a welcome gate, welfare activities, renovation of school buildings, drainage systems, and culverts.	0.20	0.20	0.20	0.20	0.20	1.0	Construction of a welcome gate, renovation of school buildings, drainage systems, and culverts. Target completion by October 2030.
33	Welfare activities for community development in the village							Implementation of welfare activities aimed at community development in the village. Target completion by October 2030.

Sr. No	Key Area Identification for Activities Based on Public Needs Highlighted During Public Hearing	Proposed Expenditures year wise (Rs. In Crores)					Total Proposed Expenditure (Rs. In Crores)	Physical Targets
		1st Year	2nd Year	3rd Year	4th Year	5th Year		
	Sub Total	0.20	0.20	0.20	0.20	0.20	1.0	
Total (A+B+C+D+E+F)		**2.25**	**3.06**	**3.19**	**2.04**	**0.96**	**11.50**	

24.1.14: Cost of project: Existing capital cost of project was Rs. 15,105.22 Crores. The capital cost of the proposed project is Rs. 20,445.69 Crores and the capital cost for environmental protection measures is proposed as Rs. 2,015.44 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 40.16 Crores. The employment generation from the proposed project / expansion is approx. 96 nos. & 186 nos. permanent employment during construction and operation phases respectively and approx. 2000 nos. & 1500 nos. contractual employment during construction and operation phases respectively. The details of cost for environmental protection measures are as follows:

S. No.	Item Description	Capital Cost, Rs. in Crores	Recurring Cost, Rs. in Crores
1.	Electrostatic Precipitator	356.67	7.13
2.	Chimney	224.15	4.48
3.	Aux. Cooling Towers incl. Civil Works	26.92	0.53
4.	Ash Handling incl. AWRS	702.12	14.04
5.	Ash Dyke	100	2.0
6.	Dust extraction & suppression System	6.1	0.12
7.	DM plant, Waste treatment systems	5.0	0.1
8.	Sewerage collection, treatment & disposal	2.0	0.04
9.	Rainwater Harvesting	1.0	0.02
10.	Green Belt, Afforestation & Landscaping	10.0	0.2
11.	Flue Gas Desulfurization (FGD)	566.25	11.32
12.	Solar Power harnessing	4.59	0.09
13.	Environmental Lab Equipment	0.50	0.01
14.	Environmental Monitoring Systems	4.30	0.08
15.	**Provision for Implementation of study recommendation**		
a.	Wildlife Conservation through Forest Dept.	2.52	--
b.	Watershed Development and River conservation	0.70	--
c.	Biodiversity Analysis Report Recommendation	0.72	--
d.	Hydrogeology Study Report Recommendation	1.90	--
	TOTAL	**2015.44**	**40.16**

24.1.15: Green belt development: Existing green belt has been developed in 66.368 ha area,

which is about 14.01 % of the total plant area of 473.570 ha with total sapling of 83,639 Trees. Proposed greenbelt will be developed in 90.412 ha which is about 19.09 % of the total plant area. Thus total of 156.780 ha area (33.10% of total plant area) will be developed as greenbelt. A 5 m - 50 m wide greenbelt, consisting of at least 3 tiers around plant boundary will be developed as greenbelt and green cover as per CPCB guidelines. Local and native species will be planted with a density of 2500 trees per hectare. Total no. of 2,26,025 saplings will be planted and nurtured in 90.412 hectares in 7 years.

24.1.16: Ash management:

Rs.	Quantity Generated (MT)	Quantity utilized (MT)	% of Utilization	Balance Quantity (MT)	No of storage silos with capacity
2022-23	19,58,865	14,31,092	73.06	5,27,773	3 nos. of 750 MT each (2250 MT)
2023-24	21,32,894	23,82,289	111.69	-2,49,395	
2024-25	21,72,114	17,85,254	82.19	3,86,860	

A. Fly ash details of last 3 years

S. No.	Activity (as applicable)	Quantity Utilized, MT	Percentage of Total Fly Ash	Remarks (Prior approval of SPCB details to be mentioned)
1	Fly ash-based products (bricks or blocks or tiles or fiber cement sheets or pipes or boards or panels)	2022-23: 5015	0.32	-
		2023-24: 25200	1.48	
		2024-25: 42208	2.43	-
2.	Cement manufacturing	2022-23: 55369	3.53	
		2023-24: 14390	0.84	
		2024-25: 17625	1.01	
3.	Construction of roads, road and fly over embankment	2022-23: 1342158	85.65	-
		2023-24: 2342699	137.30	
		2024-25: 1711091	98.47	
4.	Filling up of low-lying area	2022-23: 4000	0.26	Prior approval of MPPCB obtained
		2023-24: 0		
		2024-25: 0	0	
5.	Filling of mine voids/stone quary:	2022-23: 24550	1.57	Prior approval of MPPCB obtained
		2023-24: 0	0	
		2024-25: 0		
	Total	**5584305**	**91.37**	

B. Bottom ash details of last 3 years

S. No.	Activity (as applicable)	Quantity	Percentage
14.	Low lying area/ Abandoned mines/Stone quarry/Road construction	2022-23 = 0	0
		2023-24 = 0	0
		2024-25 = 1044	0.24
	Total	**1044**	**0.24**

C. Legacy ash details – All the three ash lagoons are operational, hence there is no legacy ash.

Unutilized Ash available in current compliance cycle is 6,65,238 MT at the end of 2024-25 which shall be utilized in subsequent years as per compliance cycle timeline under ash utilization notification, 2021.

D. *Ash Pond Details*: - Stage-I (Existing Ash Dyke)

S.No	Details of Ash pond	HCSD Lagoon	BA Lagoon 2	BA Lagoon 3	Total
1.	Status of ash pond (Active/Exhausted, yet to be reclaimed/ Reclaimed)	Active	Active	Active	3 nos. Active
2.	Area (Ha)	52.12 Ha	BA-II- 38.25 Ha	33.56 Ha	Total – 157.020 Ha. 1. HCSD: 52.12 Ha 2. BA-II :38.25 Ha 3. BA-III: 33.56 Ha 4. Overflow lagoon : 3.88 Ha 5. Lagoon-1A: 12.64 Ha Ash evacuation road + drain =16.57 Ha
3.	Dyke height (m)	Avg. height: 10.0 meter	Avg. height: 10.0 meter	Avg. height: 10.0 meter	Avg. height : 10.0 meter
4.	Volume (m^3)	31.87 LCM	21.48 LCM	25.39 LCM	78.74 LCM
5.	Quantity of ash disposed (Metric Tons)	74.22% and 23.65 LCM	20.22% and 4.34 LCM	6.18% 1.57 LCM	29.57 LCM
6.	Available volume in percentage and quantity of ash can be further disposed (Metric Tons)	25.77% 8.22 LCM	79.77% and 17.14 LCM	93.82% and 23.82 LCM	62.44 % 49.17 LCM
7.	Expected life of ash pond (number of years and months)	8 years	8 years	8 years	8years
8.	Type lining carried in ash pond: HDPE lining of LDPE Inning or clay Inning or No lining	Thick High Concentration Slurry disposal gets solidified and work as impervious liner.	HCSD lining	Clay & bentonite	
9.	Mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or MCSD or LCSD)	Wet Slurry HCSD	Wet Slurry LCSD	Wet Slurry LCSD	
10.	Ratio of ash: water in slurry mix (1:..):	1:1	1:6	1:6	

S.No	Details of Ash pond	HCSD Lagoon	BA Lagoon 2	BA Lagoon 3	Total
11.	Ash water recycling system (AWRS) installed and functioning: Yes or No	Yes	Yes	Yes	
12.	Quantity of wastewater from ash pond discharged into land or water body (m^3)	NA	NA	NA	NA
13.	Last date when the dyke stability study was conducted and name of organization who conducted the study:	Stability study conducted through IIT Hyderabad in Dec 2021 and the observations have been addressed.			
14.	Last date when the audit was conducted and name of the organization who conducted the audit:	Last Audit conducted through MNNIT-Allahabad in October 2024.			

E. Proposed ash utilization plan for expansion project:

Details	Existing generation (MTPA)	Proposed generation (MTPA)	Total (MTPA)	Utilization (MTPA)	% of utilization	Balance quantity (MTPA)	No. of storage silos with capacity
Ash (Fly & Bottom)	2750000	2750000	5500000	5512000	100.22	-	Main Silos:04 nos.,9500MT (3x2500MT+1X2000MT) HCSD Silos:03 nos., 2100 MT (3x700MT) Bottom Ash Silos: 2 nos., 3000MT (2x1500 MT) for dry bottom ash system

Ash Pond details- For existing ash pond

S. No.	Details of Ash Pond (existing)	Ash Pond
1.	Area (Ha)	Total – 157.020 Ha. HCSD – 52.12 Ha BA-II -38.25 Ha BA-III – 33.56 Ha Overflow lagoon – 3.88 Ha Lagoon- 1A: 12.64 Ha Ash evacuation road + drain =16.57 Ha
2.	Dyke height (m)	Avg. height – 10.0 meter
3.	Volume (m^3)	Total – 78.74 LCM.
4.	Quantity of ash to be disposed (Metric	Total – 49.17 LCM

S. No.	Details of Ash Pond (existing)	Ash Pond
	Tons)	
5.	Expected life of ash pond (number of years and months)	8 years
6.	Type lining carried in ash pond: HDPE lining of LDPE lining or clay lining or No lining	HCSD Lagoon: HCSD lining BA Lagoon-II: HCSD lining BA Lagoon-III: Clay & Bentonite OFL: Clay & Bentonite
7.	Mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or MCSD or LCSD)	Wet slurry disposal. HCSD Lagoon: HCSD BA-II&III: LCSD
8.	Ratio of ash: water in slurry mix (1:..)	HCSD - 1:1 BA Lagoon-II – 1:6 BA Lagoon-III – 1:6
9.	Ash water recycling system (AWRS): Yes or No	Yes
10.	Quantity of wastewater from ash pond to be discharged into land or water body (m^3)	No wastewater discharge. Zero Liquid Discharge system implemented.
11.	Details regarding dyke stability study and name of the organization who conducted the study.	Stability study conducted through IIT Hyderabad in December 2021 and the observations have been addressed.

Ash Pond details: For Proposed ash pond

S. N.	Details of Ash Pond (proposed)	Earlier	Optimised
1.	Area (Ha)	107.242	99
2.	Dyke height (m)	7.5 m (Starter dyke)	7.5 m (Starter dyke)+ 1 Raising
3.	Volume (m^3)	4.6 Million m^3	6.2 Million m^3
4.	Quantity of ash to be disposed (Metric Tons)	4.6 Million Metric Tons (considering density as 1T/Cum)	6.2 Million Metric Tons (considering density as 1T/Cum)
5.	Expected life of ash pond (number of years and months)	1 Years 6 Months (w.r.t. total ash generation of Stage-II)	2 Years 0 months (w.r.t. total ash generation of Stage-II)
6.	Type lining carried in ash pond: HDPE lining of LDPE lining or clay lining or No lining	Suitable impervious lining as per actual site conditions meeting the imperviousness requirements as per standard "Guidelines for Design, Construction, O&M and Annual certification of Coal Ash Ponds-June 2023". HDPE lining system is envisaged in OFL and Bentonite blended lining in all ash storage lagoons.	
7.	Mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or MCSD or LCSD)	Fly Ash: HCSD. Bottom Ash: LCSD	
8.	Ratio of ash: water in slurry mix	Maximum 25% ash on dry ash basis, rest is water for LCSD Slurry·	

		55% to 65% (Average - 60%) of ash on dry ash basis for HCSD slurry.
9.	Ash water recycling system (AWRS):	Yes
10.	Quantity of wastewater from ash pond to be discharged into land or water body (m3)	Zero Liquid Discharge (ZLD) system envisaged for the proposed expansion project. No wastewater discharge is envisaged.
11.	Details regarding dyke stability study and name of the organization who conducted the study.	As already done in all past ash dyke stability design, this will also be done by NTPC, (in-house design) in line with standard "Guidelines for Design, Construction, O&M and Annual certification of Coal Ash Ponds-June 2023". Adequate measures for safety and stability of the Ash dyke are considered from design stage.

24.1.17: Summary of violation under EIA, 2006/court case/show cause/direction if any, related to the project under consideration are furnished as below-

A. Summary of court cases: Summary of Court cases pending as on 16.04.2025 is as given below:

CONSOLIDATED LEGAL CASES							
Nature of cases	**Supreme Court**	**High Court**	**District Court**	**Arbitration**	**Labour Court/ Industrial Tribunal**	**Other Authorities**	**Total**
Service Matter	-	02	-	-	-	-	02
Labour cases/ Factory Cases	-	-	01	-	02		03
Land Acquisition cases	-	05		-	-	-	06
Pollution / Environmental cases	-	01	-	-	-	-	01
PIL Cases	-	-	-	-	-	-	Nil
Cases under Insolvency and Bankruptcy code, 2016	-	-	-	-	-	-	Nil
Misc. Cases	-	02	02	-	-	-	04
Arbitration Cases	-	01	-	01		-	02
Total	**-**	**11**	**03**	**01**	**02**		**18**

Details pertaining to Pollution / Environmental related Court case:

S. N.	Category of cases	Case No.	Name of the Court	Name of the Advocate	Petitioner	Respondent	Description of the case	Present Status/ Remarks	Present Status/ Remarks as on date
1	High Court	WP/ 12708/ 2019	High Court, Jabalpur	R.C Srivastava	Pappu Kaurav	UOI & Oth.	Petitioner has raised Environmental issues/ concerns w.r.t unloading of coal at Gadarwara Railway siding for use of Gadarwara Super Thermal Power Project and has prayed for necessary precautionary measurers at the time of unloading of coal.	Case is pending before High Court, Jabalpur and presently not scheduled for listing. Further, the railway line up to Gadarwara STPP has been commissioned and No Coal Unloading is being done at Gadarwara railway siding.	Not listed

B. Summary of Show Cause Notices: Nil

C. Summary of violation: There is no violation cases under the Environmental Protection Act, 1986; Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980 and the Wildlife (Protection) Act, 1972: Nil

24.1.18: Compliance to the observations of sub-committee site visit report – EAC Sub-committee visited on 17th to 18th Jan 2025. Action Plan in response to report of the site visit by EAC Sub- Committee is given as below:

S. N.	Recommendation	Compliance Status /Action Taken
1	Phase wise plan for the green belt development all along the internal roads, residential colony and gap area. Adequate budgetary provision should be incorporated for the purpose.	Green belt /Plantation development plan including gap filling has been prepared and included in Final EIA Report.
2	Design, Construction and maintenance of proposed ash pond/dyke (for Stage – II) shall be as per the guidelines issued by the CPCB/CEA in June 2023 and provision of Ash Loaded Trucks Body /Tyres	In line with Guidelines of CPCB and CEA; dated June 2023, Design and Construction of proposed ash pond/dyke (for Stage – II) will be done as per actual lagoon/site requirements. Wheel washing system is being provided for ash transportation

S. N.	Recommendation	Compliance Status /Action Taken
	cleaning mechanism to be provided near ash pond/weigh Bridge.	vehicles.
3	Proper fencing and plantations all around the boundary of ash ponds.	Protection measures shall be provided as per CPCB guidelines. Fencing and signboards have been provided at Plantation along ash dyke and further plantation will be done along the north boundary of the dyke.
4	Regular monitoring system to check groundwater quality in surrounding areas and also at ash ponds.	Regular monitoring of groundwater quality in surrounding areas around ash ponds is being done and will be carried out for proposed ash dykes also.
5	Village Dongargaon is located close to the plant boundary, adequate environmental safety measures must be planned for the health and safety of the villagers.	NTPC Gadarwara has undertaken various CSR-CD activities like Construction of Road, Community Hall & Yatri Shed, provision of drinking water pipeline, medical camp etc. for the Dongargaon village. Following Environmental Safety measures are proposed to be undertaken under CSR-CD activities: i. Regular monitoring of ambient air, groundwater quality, noise level and soil quality ii. Quarterly health checkup camps under CSR for residents of Dongargaon village. iii. Periodic screening for specific Respiratory disorders like COPD, Asthma, Bronchitis etc and noise related conditions like hearing loss, tinnitus etc.
6	Under the CSR activity, emphasis shall be given on the skill development trainings to the unemployed youth and women residing in the nearby villages. Also, the PP shall join hands in training with the National Skill Development Corporation (NSDC) for greater good and outreach.	Skill development trainings for the unemployed youth and women residing in the nearby villages is already being done, Collaboration has been done with RSETI for training of Rural women.
7	The PP shall align with possible sustainable development goals (SDG) as specified by the United Nations and stress upon the concept of Carbon Neutrality.	Proposed Project activities will help in achievement of Sustainable Development Goals. The alignment with SDGs has been given in the Final EIA Report Chapter-2 Section 2.10.6.

24.1.19: Written submissions: Project proponent submitted the following written submissions during the meeting:

S. N.	EAC Meeting observations and point-wise reply
1	**Justification for requirement of Proposed Ash Dyke Area**
	The proposed Ash dyke area (99 Ha.) for Stage-II is essential to sustain plant operation due to following reasons. i) The avenues of ash utilisation at Gadarwara STPS are limited due to its geographic location and at present the sectors in which ash utilisation is being done are road construction and low-lying filling, although Station is putting all out efforts for utilisation of ash in all possible avenues. It is pertinent to mention that, in future, the utilization in

	the above-mentioned avenues may taper down and contingent arrangement of space is required for ash dumping, in absence of other utilization avenues on sustainable basis. ii) With the envisaged Wet disposal of bottom ash, the existing Stage-I ash dyke is not sufficient for decantation and recirculation requirements. iii) In order to ensure sustained power generation, requirement of ash dyke for proposed Stage -II units is felt necessary to meet any contingency that may arise out of poor ash utilisation. Furthermore, space for stowing of ash is required to handle the situation of poor ash utilisation vis-à-vis demand of power generation specifically during monsoon period. In view of the above, NTPC Gadarwara shall put its sincere efforts to comply the stipulated norm prescribed under applicable ash utilization notifications and considering the Ash utilization trend and potential, will review the requirement of the area mentioned for the existing and proposed ash dyke and **accordingly will put best efforts to convert approx. 70 Ha. exhausted ash dyke area, into Greenbelt in phased manner after 5 years from the start of Commercial operation of the last unit. The greenbelt area so developed shall be in addition to the greenbelt area of 156.78 Ha. proposed in the application.**
2	**Revised action plan for issues raised in Public Hearing**
	Necessary corrections have been incorporated and revised action plan is submitted herewith.
3	**Ash Utilization avenues to be explored other than NHAI Road projects**
	NTPC Gadarwara STPP will strive to increase utilization of Ash in following avenues: a) Construction of road and embankments etc under State Government. b) Construction of road by PWD and other agencies. c) Road development under Pradhan Mantri Gram Sadak Yojana d) Ash utilisation in Cement sector e) Low lying area filling, mine void/ quarries back filling and reclamation, f) In-situ Ash brick manufacturing and issue of ash to FAB manufacturing units. g) New initiatives like manufacturing of pre-fab interlocking blocks/tiles, Nano-Concrete Aggregates (NACA), construction of Geo-polymer road and effort for use of Bottom Ash as a substitute to sand etc.
4	**Mitigation measures during transportation of ash by road**
	a) All ash transportation through bulker or vehicles covered with tarpaulin/ HDPE sheet of suitable thickness. b) Sprinkling of water at regular interval along the peripheral hauling roads/ approach roads. c) Washing of Bulkers before leaving the silo area. d) Inspection of ash transportation vehicles before entering the dyke to ensure healthiness of base/ body to avoid spillage during transportation. e) Loading of the conditioned ash in transportation vehicles to control fugitive emission during ash transportation. f) Use of fog cannons (under procurement) for fugitive dust control g) Ensuring water ponding and sprinkling in dyke to control fugitive emission from the dyke.

	h) Strengthening of Avenue plantation along the route from Ash Dyke to connecting road up to Gadarwara.

Observations and deliberation of the EAC

24.1.20: The Committee observed and noted the following:

i. Instant proposal is for expansion of Gadarwara STPP by adding Stage- II 1600 MW (2x800 MW) with UltraSuper Critical technology having Air Cooled Condenser system to the existing Stage- I 1600 MW (2x800 MW) by M/s. NTPC Limited at Villages Gangai, Mehrakheda, Chorbarheta, Dongergaon and Kudari, Tehsil Gadarwara, District Narsinghpur, Madhya Pradesh.

ii. The existing Stage- I project for 1600 MW (2x800 MW) was accorded environmental clearance on 22/03/2013 and subsequently amended by the Ministry vide letters dated vide letter dated 01.09.2017, 07.02.2019, 22.10.2019, 11.08.2020 & 24.12.2021. Consent to Operate for the existing Unit was accorded by Madhya Pradesh Pollution Control Board (MPPCB), Bhopal vide Letter dated 22.07.2024 and the same is valid up to 30.09.2026. Both units of the existing Project has been implemented and is under operation.

iii. Compliance report submitted by RO, Bhopal on dated 21.04.2025 for the existing unit along with the action taken by the proponent was deliberated by the Committee and found it satisfactory.

iv. ToR for the proposed expansion project was obtained on 30/09/2024.

v. Total land of 910.706 ha is required for the proposed project (289.232 ha) including existing Unit (621.474 ha), out of which, 854.56 ha has been acquired and is under possession of M/s. NTPC Limited. Out of total project area of 910.706 Ha, an area of 56.146 Ha land is under Right of Use (ROU) for makeup water pipeline and yet to be acquired by the proponent. Overall, the proposed expansion is within the plant premises area and no additional land acquisition is envisaged for the proposed expansion project.

vi. There is no involvement of forest land in the proposed project.

vii. The EAC also took into consideration the drone survey of the project site and KML file on the Google Earth presented by the project proponent along with DSS of the project site on PARIVESH portal.

viii. There are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from the project site as ascertained from DSS.

ix. The project site is not located within the Critically Polluted Area (CPA) / Severally Polluted Area (SPA) as per CEPI assessment 2018 of CPCB.

x. Shakkar River is located at distance of 600 m (NE-N) from the project site. Water Resource Department vide letter dated 15/10/2024 has given certificate regarding HFL level of Shakkar River at Gadarwara, which is 332.47 m as recorded on 08.09.1999.

xi. As per the Survey of India Toposheet and the Census of India 2011 data, total 125 villages are present within 10 km radius from the project site. Some Schools are located within 2-3 Km of the project site. A dense greenbelt shall be developed around the

Gadarwara STPP/ boundary wall of the Schools and along the roadsides as a barrier between the school, village and project boundary to mitigate noise and dust pollution.

xii. Coal requirement for Stage-I (2x800 MW) & Stage II (2x800 MW) project will be met through Rail. There will be no road transportation of coal for Stage- I & II. The coal unloading shall be done through Wagon Tippler/ Track Hopper.

xiii. Existing Water requirement is 1,12,200 m^3/day, which is obtained from Narmada River. The water requirement for the proposed project is estimated as 48,000 m^3/day for which additional water allocation has been obtained from Water Resources Department, Govt. of Madhya Pradesh, vide letter dated 19.02.2024. Total Water Requirement of the project will be 1,60,200 m^3/day, which is well within the existing permission limit. The water will be transported to the plant site through pipeline.

xiv. Existing power requirement for the existing stage-I and proposed stage-II project is 100 MW and 124 MW, respectively, which shall be obtained from own Gadarwara STPP.

xv. The Committee deliberated on the baseline data and incremental GLC due to the proposed project and observed that AAQ levels are within NAAQS.

xvi. The Stage-II units (2x800 MW) will incorporate high-efficiency (with 99.99%) Electrostatic Precipitators (ESP) to control ash particle emissions. These ESPs will design to limit particulate emissions < 20 mg/Nm^3. A wet limestone-based Flue Gas Desulphurization (FGD) system will be installed behind ESP, at the tail end of the steam generator downstream in which SO_2 gas shall be captured in limestone slurry (to limit SO_2 emission below 100 mg/Nm^3) to produce gypsum. Besides, Low NOx Burner, Over Fire Air, Dust Extraction and Dust Suppression system shall be implemented to minimize the pollution.

xvii. Zero Liquid Discharge system is envisaged for the proposed expansion project. No wastewater discharge is proposed.

xviii. Eight (8) Schedule I Species has been reported in the buffer zone. Wildlife Conservation & Management Plan (WLCP) has been prepared and submitted to Principal Chief Conservator of Forest (Wildlife), Govt. of Madhya Pradesh for the approval.

xix. Committee deliberated on the action plan of Hydrogeology study; Bio-diversity/aquatic ecology study and Risk assessment study and found it satisfactory.

xx. Public hearing for the project was held on 30/12/2024. The Committee looked in to the videography of the public hearing proceedings, deliberated on the public hearing issues along with action plan submitted by the proponent to address the issues raised during the public hearing and found it satisfactory. The committee advised the PP to implement the PH action plan in a time bound manner.

xxi. Capital cost of the existing project was Rs. 15,105.22 Crores. The capital cost of the proposed Stage-II project is Rs. 20,445.69 Crores and the capital cost for environmental protection measures is proposed as Rs 2,015.44 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs 40.16 Crores. The employment generation from the proposed project / expansion project is approx. 96 nos. & 186 nos. permanent employment during construction and operation phases, respectively, and approx. 2000 nos. & 1500 nos. contractual employment during construction and operation phases, respectively.

xxii. Existing green belt has been developed in 66.368 ha area, which is about 14.01 % of the total plant area of 473.570 ha with total sapling of 83,639 Trees. Proposed greenbelt

shall be developed in 90.412 ha which is about 19.09 % of the total plant area. Thus total of 156.780 ha area (33.10% of total plant area) will be developed as greenbelt.

xxiii. Committee deliberated on the existing ash management and observed that percentage of ash utilization for the year 2024-25 is observed to be only 82.19 %. Committee asked the proponent to achieve 100 % ash utilization. Further, with respect to the proposed new ash pond, the committee asked the proponent to optimize the land area. Accordingly, PP optimized the area from 107.242 Ha to 99 Ha.

xxiv. The committee noted that there 18 court cases with respect to the instant project. Out of 18 cases, only one case bearing Original Application No. WP/ 12708/ 2019 is related to the environment and the same is pending at High Court, Jabalpur.

xxv. The Committee noted that the EIA report is in compliance of the ToR issued for the project, reflecting the present environmental status and the projected scenario for all the environmental components.

xxvi. The EAC also deliberated on the written submission of the project proponent, and found it satisfactory.

xxvii. The EAC noted that the Project Proponent has given an undertaking that the data and information given in the application and enclosures are true to the best of his knowledge and belief and no information has been suppressed in the EIA/EMP reports. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.

Recommendations of the Committee:

24.1.21: In view of the foregoing and after detailed deliberations, the committee ***recommended*** the instant proposal for grant of Environment Clearance under the provisions of EIA Notification, 2006 subject to uploading of written submission on PARIVESH Portal and stipulation of the following specific conditions and general conditions based on project specific requirements:

A. Specific conditions

[A] Environmental Management

1) Project proponent shall adopt 100% utilization of ash generated as a result of the expansion project in accordance with the ash utilization notification dated 31/12/2021 and its subsequent amendment. Area for the additional ash pond proposed under the expansion project shall not exceed 99 Ha as committed.

2) In addition to the existing 4 Continuous Ambient Air Quality Monitoring Stations (CAAQMS), Project proponent shall install additional two continuous ambient air quality monitoring at suitable location within the project site in consultation with MPPCB as committed.

3) The water requirement for the proposed project is estimated as 48,000 KLD and the same shall be met from Narmada River. Air Cooled Condenser System shall be used in STPP Stage-II as committed.

4) Project proponent shall store harvested rainwater in the project boundary and utilize the same for plantation, recharging water in the pond and domestic utilization in colonies. A record shall be maintained of water collected through rainwater and its supply

system. PP shall get the water audit done every year to optimize the water requirement.

5) Project proponent shall implement the protective measure proposed in EMP in a time-bound manner. The budget earmarked for the same is Rs. 2,015.44 Crores (Capital) and Rs. 40.16 crores (recurring) and should be kept in separate accounts and audited annually. The implementation status along with the amount spent with documentary proof shall be submitted to the concerned Regional Office for the activities carried out during the previous year.

6) Project proponent shall assess the carbon footprint of the project and develop carbon sink/carbon sequestration resources using modern technologies. The implementation report shall be submitted to the concerned Regional Office of the MoEF&CC.

7) Project proponent shall install and commission the FGD for the existing 2x800 MW & and proposed 2x800 MW unit as per the Ministry's notification dated 05/09/2022 and its subsequent amendments.

8) Ash pond area and fly ash utilization shall be as per Fly Ash Notification issued by Ministry/ CPCB from time to time.

9) Project proponent shall ensure that pipelines carrying the fly ash and effluent shall be inspected regularly for any leakages.

10) Effluent of 4920 KLD will be treated through Effluent Treatment Plant. As committed by the Project proponent, Zero liquid discharge shall be adopted for the existing and the proposed plant. No wastewater will be discharged outside the project site.

11) PP shall implement the concurrent plantation plan in a time bound manner. Total of 156.780 ha area (33.10% of total plant area of 473.570 ha) will be developed as greenbelt. A 5 m - 50 m wide greenbelt, consisting of at least 3 tiers around plant boundary will be developed as greenbelt and green cover as per CPCB guidelines. PP shall also adopt Miyawaki plantation technique and plantation with minimum 2 meter height of the saplings in upcoming monsoon season. The budget earmarked for the green belt, plantation inside and outside the plant area, along the transportation route and Miyawaki Plantation area shall be kept in a separate account and audited annually. PP should annually submit the audited statement of expenditure along with proof of activities viz. photographs (before & after with geolocation date & time), details of expert agency engaged, details of species planted, number of species planted, survival rate, density of plantation etc. to the Regional Office of MoEF&CC and on PARIVESH Portal as the case may be for the activities carried out during previous year.

12) Project proponent shall carry out community plantation with incentive scheme by distributing 50,000 saplings per year for a period of five years. Further, PP shall provide basic facilities to the nearby schools such as drinking water, sanitation facilities and shall also develop green belt around the nearby schools. Regular watering of saplings planted in the nearby schools will be carried out by Project Proponent to mitigate the air and noise pollution. Further, PP shall organize quarterly awareness programs for school students to educate them on the significance and preservation of trees.

13) Project proponent shall review the requirement of the area mentioned for the existing and proposed ash dyke and accordingly will put best efforts to convert approx. 70 Ha exhausted ash dyke area of Stage I into Greenbelt in phased manner after 5 years from the start of Commercial operation of the Stage II units. The greenbelt area so developed

shall be in addition to the greenbelt area of 156.78 Ha as proposed under the instant proposal.

14) Wildlife conservation plan as approved by the competent authority shall be implemented. Additional, budget shall be added in the plan, in case additional measures suggested by state wildlife department. The final Wildlife conservation plan duly approved by the CWLW shall be submitted to RO, MoEF&CC within a time frame of three months from the date of grant of EC and the budget approved by the concerned authority shall be deposited in government account.

15) Project proponent shall install LED display of air quality (Continuous AAQ monitoring) and stack emission (Continuous emission monitoring) at prominent locations preferably outside the plant's main entrance for public viewing and in administrative complex and maintenance of devices shall be done regularly.

16) Project proponent shall carry out Water Sprinkling on roads inside the plant area/ administrative/ residential areas and outside the plant area at least for 2 KM on a regular basis to control the air pollution. A logbook shall be maintained for the activity and be in six-monthly compliance report.

17) PP shall deploy vacuum based vehicle for everyday cleaning of the road in and around plant site at least for 5 KM.

18) Environment Audit of plant shall be done annually and report shall be submitted to Regional office of the Ministry.

19) A detailed action plan regarding leachate handling shall be prepared and implemented in consultation with SPCB and the same shall be submitted to the Regional Office of the Ministry. Leachate shall be treated and reused. No treated leachate shall be discharged in any circumstances. Characteristics of Leachate and the treated leachate shall be monitored once in quarter and records shall be maintained.

20) Oil and grease recovered from the treatment plant should be disposed only through authorized recyclers.

21) Monitoring of surface water quality and Ground Water quality shall also be regularly conducted in and around the project site and records to be maintained. Further, monitoring points shall be located between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall also be undertaken and results/findings submitted along with half yearly monitoring report. The monitored data shall be submitted regularly on PARIVESH portal as part of Half Yearly compliance report

22) For the DG sets, emission limits and the stack height shall be in conformity with the extant regulations and the CPCB guidelines. Acoustic enclosure shall be provided to DG set for controlling the noise pollution.

23) PP shall ensure that all types of plastic waste generated from the plant shall be stored separately in isolated area and disposed of strictly adhering to the Plastic Waste Management Rules 2016 (as amended). In pursuant to the Ministry's OM dated 18/07/2022. PP shall also create awareness among the people working in the project area as well as in its surrounding area on the ban on Single Use Plastic (SUP) in order to ensure compliance of Ministry's Notification published by the Ministry on 12/08/2021. A report along with photograph on the measures taken shall also be included in the six monthly compliance report submitted by PP.

24) PP is advised to implement the 'Ek Ped Maa Ke Naam' Campaign which was launched on 5th June 2024 on the occasion of the World Environment Day to increase the forest cover across the Country. This plantation drive is other than Green belt development. The action in this regard shall be submitted concerned RO in six monthly report.

[B] Socio-economic

1) A vision document comprising prospective plan for implementation of various CER activities, plantation programme outside the project cover area, rejuvenation and conservation of water bodies within 5 km radius of the project cover area shall be prepared and submitted to the Regional Office of the Ministry within 6 months. Implementation status of the same shall be reported to the Regional office in 6 monthly compliance report.

2) Epidemiological Study among population within 5 km radius of project cover area shall be carried out on regular interval (Once in two year) through independent agency. Necessary measures shall be taken as per findings of study in consultation with district administration. Action taken report shall be submitted to the Regional Office of the Ministry.

3) The budget proposed for PH is Rs. 11.50 Crores. The budget proposed shall be kept in a separate account and audited annually. Project proponent shall implement the action plan to address the issues raised during public hearing within a time frame of 5 years from the date of grant of EC. In addition to this, PP shall strengthen the existing Primary Health Center (PHC) & Community Health Center (CHC) in the study area for better public health as committed. Compliance status in this regard shall be submitted along with the six monthly compliance to the concerned Regional Office of MoEF&CC.

4) The establishment of a robust public grievance redressal mechanism to address concerns and complaints from local communities regarding the power plant's operations, environmental impacts, or social issues shall be developed. A Senior Officer shall review the functioning of the mechanism twice in a month.

[C] Miscellaneous

1) An Environmental Cell headed by the Environment Manger with postgraduate qualification in environmental science/environmental engineering, shall be created. It shall be ensured that the Head of the Cell shall directly report to the Head of the Plant who would be accountable for implementation of environmental regulations and social impact improvement/mitigation measures.

2) Consent for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.

3) All necessary clearance from the concerned Authority, as may be applicable should be obtained prior to commencement of project or activity.

B. General conditions

A. Statutory compliance:

1. Emission Standards for Thermal Power Plants as per Ministry's Notification S.O. 3305 (E) dated 7.12.2015, G.S.R.593 (E) dated 28.6.2018 and as amended from time to time shall be complied.
2. Part C of Schedule II of Municipal Solid Wastes Rules, 2016 dated 08.04.2016 as amended from time to time shall be complied for power plants based on Municipal Solid Waste.
3. MoEF&CC Notifications on Ash Utilization S.O. 5481 (E) dated 31/12/2021 as amended from time to time shall be complied.
4. MoEF&CC Notifications on Water Consumption vide Notification No. S.O. 3305 (E) dated 07.12.2015 read with G.S.R 593 (E) dated 28.6.2018 as amended from time to time shall be complied.
5. The recommendation from Standing Committee of NBWL under the Wildlife (Protection) Act, 1972 should be obtained, if applicable.
6. No Objection Certificate from Ministry of Civil Aviation be obtained for installation of requisite chimney height and its siting criteria for height clearance.

B. Ash content/ mode of transportation of coal:

1. MoEF&CC Notification issued vide S.O. 1561 (E) dated 21.05.2020 and as amended from time to time shall be complied which inter-alia include use of coal by Thermal Power Plants, without stipulations as regards ash content or distance, shall be permitted subject to compliance of conditions prescribed under (1) Setting Up Technology Solution for emission norms, (2) Management of Ash Ponds and (3) Transportation.

C. Air quality monitoring and Management:

1. Flue Gas Desulphurisation System shall be installed based on Lime/Ammonia dosing to capture Sulphur in the flue gases to meet the SO_2 emissions standard as per G.S.R. 682 (E) dated 05.09.2022 and amended from time to time.
2. Selective Catalytic Reduction (SCR) system or the Selective Non-Catalytic Reduction (SNCR) system or Low NOX Burners with Over Fire Air (OFA) system shall be installed to achieve NO_X emission standard of 100 mg/Nm^3.
3. High efficiency Electrostatic Precipitators (ESPs) shall be installed in each unit to ensure that particulate matter (PM) emission to meet the stipulated standards of 30 mg/Nm^3.
4. Stack with a height of 275 meters shall be provided with continuous online monitoring instruments for SO_2, Nox and Particulate Matter as per extant rules.
5. Exit velocity of flue gases shall not be less than 20-25 m/s. Mercury emissions from stack shall also be monitored periodically.
6. Continuous Ambient Air Quality monitoring system shall be set up to monitor common/criteria pollutants from the flue gases such as PM_{10}, $PM_{2.5}$, SO_2, NO_X within the plant area at six locations. The monitoring of other locations (at least three locations outside the plant area covering upwind and downwind directions at an angle of 120° each) shall be carried out manually.

7. Adequate dust extraction/suppression system shall be installed in coal handling, ash handling areas and material transfer points to control fugitive emissions.
8. Appropriate Air Pollution Control measures (Des/DSs) be provided at all the dust generating sources including sufficient water sprinkling arrangements at various locations viz., roads, excavation sites, crusher plants, transfer points, loading and unloading areas, etc.

D. Noise pollution and its control measures:

1. The Ambient Noise levels shall meet the standards prescribed as per the Noise Pollution (Regulation and Control) Rules, 2000.
2. Persons exposed to high noise generating equipment shall use Personal Protective Equipment (PPE) like earplugs/ear muffs, etc.
3. Periodical medical examination on hearing loss shall be carried out for all the workers and maintain audiometric record and for treatment of any hearing loss including rotating to non-noisy/less noisy areas.

E. Human Health Environment:

1. Bi-annual Health check-up of all the workers is to be conducted. The study shall take into account of chronic exposure to noise which may lead to adverse effects like increase in heart rate and blood pressure, hypertension and peripheral vasoconstriction and thus increased peripheral vascular resistance. Similarly, the study shall also assess the health impacts due to air polluting agents.
2. Impact of operation of power plant on agricultural crops, large water bodies (as applicable) once in two years by engaging an institute of repute. The study shall also include impact due to heavy metals associated with emission from power plant.

F. Water quality monitoring and Management:

1. Induced/Natural draft closed cycle wet cooling system including cooling towers shall be set up with minimum Cycles of Concentration (COC) of 5.0 or above for power plants using fresh water to achieve specific water consumption of 3.0 m^3/MWhr.
2. In case of the water withdrawal from river, a minimum flow 15% of the average flow of 120 consecutive leanest days should be maintained for environmental flow whichever is higher, to be released during the lean season after water withdrawal for proposed power plant.
3. Records pertaining to measurements of daily water withdrawal and river flows (obtained from Irrigation Department/Water Resources Department) immediately upstream and downstream of withdrawal site shall be maintained.
4. Regular (at least once in six months) monitoring of groundwater quality in and around the ash pond area including presence of heavy metals (Hg, Cr, As, Pb, etc.) shall be carried out as per CPCB guidelines. Surface water quality monitoring shall be undertaken for major surface water bodies as per the EMP. The data so obtained should be compared with the baseline data so as to ensure that the groundwater and surface water quality is not adversely impacted due to the project & its activities.
5. The treated effluents emanating from the different processes such as DM plant, boiler blow down, ash pond/dyke, sewage, etc. conforming to the prescribed standards shall

be re-circulated and reused. Sludge/ rejects will be disposed in accordance with the Hazardous Waste Management Rules.

6. Hot water dispensed from the condenser should be adequately cooled to ensure the temperature of the released surface water is not more than 5 degrees Celsius above the temperature of the intake water.
7. Wastewater generation of 4920 KLD from various sources (viz. cooling tower blowdown, boiler blow down, wastewater from ash handling, etc) shall be treated to meet the standards of pH: 6.5-8.5; Total Suspended Solids: 100 mg/l; Oil & Grease: 20 mg/l; Copper: 1 mg/l; Iron:1 mg/l; Free Chlorine: 0.5; Zinc: 1.0 mg/l; Total Chromium: 0.2 mg/l; Phosphate: 5.0 mg/l;
8. Sewage generation of 75 KLD will be treated by setting up Sewage Treatment plant to maintain the treated sewage characteristics of pH: 6.5-9.0; Bio-Chemical Oxygen Demand (BOD): 30 mg/l; Total Suspended Solids: 100 mg/l; Fecal Coliforms (Most Probable Number): <1000 per 100 ml.

G. Risk Mitigation and Disaster Management:

1. Adequate safety measures and environmental safeguards shall be provided in the plant area to control spontaneous fires in coal yard, especially during dry and humid season.
2. Storage facilities for auxiliary liquid fuel such as LDO and HFO/LSHS shall be made as per the extant rules in the plant area in accordance with the directives of Petroleum & Explosives Safety Organisation (PESO). Sulphur Content in the liquid fuel should not exceed 0.5%.
3. Ergonomic working conditions with First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.
4. Safety management plan based on Risk Assessment shall be prepared to limit the risk exposure to the workers within the plant boundary.
5. Regular mock drills for on-site emergency management plan and Integrated Emergency Response System shall be developed for all kind of possible disaster situations.

H. Green belt and Biodiversity conservation:

1. Green belt shall be developed in an area of 33% of the total plant area with indigenous native tree species in accordance with CPCB guidelines. The green belt shall inter-alia cover an entire periphery of the plant.
2. In-situ/ex-situ Conservation Plan for the conservation of flora and fauna should be prepared and implemented.

I. Waste management:

1. Solid waste management should be planned in accordance with extant Solid Waste Management Rules, 2016.
2. Toxicity Characteristic Leachate Procedure (TCLP) test shall be conducted for any substance, potential of leaching heavy metals into the surrounding areas as well as into the groundwater.

3. Ash pond shall be lined with impervious liner as per the soil conditions. Adequate dam/dyke safety measures shall also be implemented to protect the ash dyke from getting breached.
4. Fly ash shall be collected in dry form and ash generated shall be used in phased manner as per provisions of the Notification on Fly Ash Utilization issued by the Ministry S.O. 5481 dated 31.12.2021, S.O.6169 (E) dated 30.12.2021, S.O.05 (E) dated 01.01.2024 and amendment thereto.
5. Unutilized ash shall be disposed off in the ash pond in the form of High Concentration Slurry method and Lean Slurry method. Ash water recycling system shall be set up to recover supernatant water.

J. Monitoring of compliance:

1. Environmental Audit of the project be taken up by the third party for preparation of Environmental Statement as per Form-V & Conditions stipulated in the EC and report be submitted to the Ministry.
2. Resettlement & Rehabilitation Plan as per the extant rules of Govt. of India and respective State Govt. shall be followed, if applicable.
3. Energy Conservation Plan to be implemented as envisaged in the EIA / EMP report. Renewable Energy Purchase Obligation as set by MoP/State Government shall be met either by establishing renewable energy power plant (such as solar, wind, etc.) or by purchasing Renewable Energy Certificates.
4. Energy and Water Audit shall be conducted at least once in two years and recommendations arising out of the Report should be followed. A report in this regard shall be submitted to Ministry's Regional Office.
5. The project proponent shall (Post-EC Monitoring):
    a. Send a copy of environmental clearance letter to the heads of Local Bodies, Panchayat, Municipal bodies and relevant offices of the Government;
    b. upload the clearance letter on the web site of the company as a part of information to the general public.
    c. inform the public through advertisement within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment, Forest and Climate Change (MoEF&CC) at http://parviesh.nic.in.
    d. upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same periodically;
    e. monitor the criteria pollutants level namely; PM (PM_{10} & $PM_{2.5}$ in case of ambient AAQ), SO_2, Nox (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company;
    f. submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies

as well as by e-mail) to the Regional Office of MoEF&CC, the respective Zonal Office of CPCB and the SPCB;

g. submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company;

h. inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project and the date of commencement of the land development work.

K. Corporate Environmental Responsibility (CER) activities:

1. CER activities will be carried out as per Ministry's OM F.No.22- 65/2017- IA.III dated 30th September, 2020 and 22-65/2017- IA.III dated 25.02.2021 or as proposed by the PP in reference to Public Hearing or as earmarked in the EIA/EMP report along with the detailed scheduled of implementation with appropriate budgeting. Statement on the commitments (activity-wise) made during public hearing to facilitate the discussion on the CER in compliance of the shall be submitted.

Agenda No 24.2

24.2 Proposed expansion of 2x700 MW supercritical coal based thermal power plant by adding 1x800 MW unit by M/s. Nabha Power Limited located at village Nalash, Rajpura, District Patiala, Punjab – Prescribing of Terms of Reference – regarding.

[Proposal no: IA/PB/THE/530410/2025, F.No. J-13011/44/2008-IA.II(T)]

24.2.1: M/s Nabha Power Limited has made an application online vide proposal no. IA/PB/THE/530410/2025 dated 16/04/2025 along with the application in prescribed format (CAF, Form – I Part A & B), copy of pre-feasibility report and proposed ToRs for undertaking detailed EIA study as per the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at item no. 1(d) – Thermal Power Plants under Category 'A' of the schedule of the EIA Notification, 2006 and appraised at Central Level. Further, project does not attract the General Condition of the EIA Notification, 2006.

Details of the proposal, as ascertained from the proposal documents and as revealed from the discussions held during the meeting, are given as under:

24.2.2: M/s. Nabha Power Limited (NPL) is a 100% subsidiary of L&T Power Development Limited (L&TPDL), currently operating a 1400 MW (2 x 700 MW) coal-fired thermal power plant. The proposed project is for expansion of 2x700 MW Nabha thermal Power plant by adding 1x800 MW unit located at Nalash village in Rajpura Tehsil, District Patiala, Punjab, India.

24.2.3: The existing (2x700 MW) project was accorded Environmental Clearance vide letter. no. J-1301l/44/2008-IA.II(T) dated 03/10/2008 from Ministry of Environment & Forests. Consent to Operate (CTO) for the existing units was accorded by Punjab State Pollution Control Board vide letter. no. CTOA/Renewal/PTA/2025/28227176 dated 26/03/2025. The validity of CTO is up to 31/03/2030.

S. No	Facility	Issuing Authority	Details of Letter No.	Date of issuance

1	1320 MW Rajpura Thermal Power Project at village Nalash, District Patiala, Punjab by Mis Nabha Power ltd - Environmental Clearance regarding.	MoEF&CC	No.J-13011/44/2008-IA.II(T)	03.10.2008
2	Amendment in Environmental Clearance for changing configuration from 2*660MW to 2*700 MW coal based thermal power plant at village Nalash, Patiala, Pumjab	MoEF&CC		15.11.2010
3	Extension of validity of environmental clearance.	MoEF&CC		05.02.2014
4	Amendment in Environmental Clearance for changing the specific condition	MoEF&CC		04.07.2022
5	Consent to Operate (CTO) for Stage-I (2*700) under Water Act, Air Act	PPCB		26/03/2025 valid up to 31/03/2030

24.2.4: The implementation status of the existing EC is given below:

S. No.	Configuration	Capacity (MW)	As per EC dated 03/10/2008	Implementation Status as on date	Production as per CTO
1	2x700	1400	J-1301l/44/2008-IA.II(T)	Project is under operation	2x700

24.2.5: Environmental site settings:

S. No.	Particulars	Details	Remarks
1.	Total land	436.25 ha [Private: 436.25 ha; Govt.: Nil ha; Agriculture Nil ha]	
2.	Land use breakup		

Facilities	Existing area (In Ha)	Proposed area (In Ha)	Total area (In Ha)	Remarks
Main Plant	9.71	5.67	15.38	• BTG & ESP
Coal Handling System	19.43	0	19.43	• CHP& Coal yard
Water System	41.69	7.28	48.97	• Reservoir, Cooling towers, CW pump house and DM plant
Switch Yard	5.67	4.45	10.12	• Switchyard & Transformer yard
Roads	19.43	1.6	21.03	• Inside plant area
Ash pond	80.9	0	80.9	• Only Pipeline
Railway siding	14.5	0	14.5	• Only Pipeline
Water supply	0.81	0	0.81	• BOP, AHP, FGD, Solar Plant, building including landscaping
Ash transport	0.61	0.41	1.02	
Others (please specify)	67.9	9.69	77.59	
Total	**390.15**	**46.1**	**436.25**	

<table>
<tr><th>S. No.</th><th>Particulars</th><th colspan="2">Details</th><th>Remarks</th></tr>
<tr><td>3.</td><td>Land acquisition details as per MoEF&CC O.M.dated 7/10/2014, 20/2/2025</td><td colspan="2">Proposed expansion unit will be constructed on the existing land of 436.25 Ha which is already available with Nabha Power Limited</td><td></td></tr>
<tr><td>4.</td><td>Existence of habitation & involvement of R&R, if any.</td><td colspan="2"><u>Project site</u>: No land acquisition required for the proposed expansion project

<u>Study Area</u>:
Habitation
<table>
<tr><th>Village</th><th>Distance from project boundary (km)</th><th>Direction</th></tr>
<tr><td>Haripur</td><td>Haripur</td><td>Haripur</td></tr>
<tr><td>Sindhra</td><td>1.78 Km</td><td>NW</td></tr>
<tr><td>Harna</td><td>0.88 Km</td><td>WNW</td></tr>
<tr><td>Surl Khurd</td><td>0.27 Km</td><td>W</td></tr>
<tr><td>Surl kalan</td><td>0.21 Km</td><td>W</td></tr>
<tr><td>Naina</td><td>1.10 Km</td><td>W</td></tr>
<tr><td>Ugani</td><td>1.43 Km</td><td>WSW</td></tr>
<tr><td>Rangian</td><td>0.64 Km</td><td>S</td></tr>
<tr><td>Nalas</td><td>0.42 Km</td><td>SSE</td></tr>
<tr><td>Nalas khurd</td><td>1.21 Km</td><td>E</td></tr>
<tr><td>Kotla</td><td>1.26 Km</td><td>ESE</td></tr>
<tr><td>Raj majra</td><td>0.81 Km</td><td>E</td></tr>
<tr><td>Dhuman</td><td>1.85 Km</td><td>ENE</td></tr>
<tr><td>Saroar</td><td>0.24 Km</td><td>ENE</td></tr>
<tr><td>Majri</td><td>0.85 Km</td><td>NE</td></tr>
<tr><td>Sadharaur</td><td>1.62 Km</td><td>NE</td></tr>
<tr><td>Loha kheri</td><td>1.93 Km</td><td>N</td></tr>
</table>
Schools
<table>
<tr><th>School</th><th>Distance from project boundary (km)</th><th>Direction</th></tr>
<tr><td>School</td><td>0.13 Km</td><td>WNW</td></tr>
<tr><td>School</td><td>0.31 Km</td><td>E</td></tr>
<tr><td>School</td><td>0.39 Km</td><td>ENE</td></tr>
<tr><td>Elementery School</td><td>0.51 Km</td><td>N</td></tr>
<tr><td>School</td><td>0.54 Km</td><td>W</td></tr>
<tr><td>Govt.Middle school</td><td>0.61 Km</td><td>W</td></tr>
<tr><td>S.B.S Public School</td><td>0.75 Km</td><td>SSW</td></tr>
<tr><td>Govt High School</td><td>1.39 Km</td><td>WSW</td></tr>
</table></td><td>R&R is not applicable for the proposed expansion unit as it will be constructed on the available land with Nabha Power Ltd</td></tr>
</table>

S. No.	Particulars	Details	Remarks

B.D.S Public School	1.76 Km	SW
Public School	1.91 Km	S
GSS School	1.98 Km	ENE

Health Centre

S. No.	Distance from project boundary (km)	Direction
1.	1.59 Km	E

Mitigation measures:

NPL is committed to implement the necessary mitigation measures to protect habitations/schools/hospitals and to maintain a safe, serene environment. These measures include:

Air Quality Management: NPL will install state-of-the-art emission control systems to maintain strict compliance with the latest emission norms. Efficient Electrostatic Precipitator as well as Flue Gas Desulphurization (FGD) unit will be installed to control Particulate matter, NOx, and Sox emissions. Continuous Emission Monitoring Systems will be installed for the expansion unit to monitor real time values of major pollutants. These measures will ensure that emissions are well within prescribed limits and will not adversely affect.

Ambient Air Quality Monitoring: 4 nos. air quality monitoring stations are already operational at the project boundary. These are strategically located to capture both upwind and downwind air quality data to accurately assess the plant's environmental impact and the parameters are being regularly analysed and reported to statutory authorities.

Greenbelt Development and Physical Barriers: A dense greenbelt, comprising native, pollution tolerant species, has already been developed around the plant boundary. Vegetative buffers act as natural air filters and noise retarders. In addition, windshield curtains and dust containment structures are installed at coal and ash handling areas to minimize particulate escape toward habitations.

Dust Suppression Measures: To minimize dust emissions, automatic water sprinkling system provided in the coal handling area for dust suppression. Dust suppression mist

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td></td><td></td><td>cannons are being used to further control particulate matter dispersion. A truck washing facility is already in operation at Ash Silo's exit area to prevent tracking of dust onto public roads, thus avoiding secondary pollution. The same facility will be extended for the additional Ash Silo area.

Noise Control through Acoustic Enclosures: To minimize the impact of industrial noise in the nearby areas, all high-noise-generating equipment such as compressors, blowers, and turbines will be fitted with acoustic enclosures. These enclosures will reduce noise levels at the source itself.</td><td></td></tr>
<tr><td>5.</td><td>Latitude and Longitude of all corners of the project site.</td><td>A. Plant site
<table><tr><th>Point</th><th>Latitude</th><th>Longitude</th></tr><tr><td>A</td><td>30°32'39.45"N</td><td>76°34'54.95"E</td></tr><tr><td>B</td><td>30°33'52.81"N</td><td>76°33'56.13"E</td></tr><tr><td>C</td><td>30°33'52.81"N</td><td>76°33'56.13"E</td></tr><tr><td>D</td><td>30°33'41.77"N</td><td>76°33'44.46"E</td></tr><tr><td>E</td><td>30°33'27.57"N</td><td>76°33'42.03"E</td></tr><tr><td>F</td><td>30°32'52.83"N</td><td>76°33'41.60"E</td></tr><tr><td>G</td><td>30°32'45.23"N</td><td>76°33'41.95"E</td></tr></table>B. Ash pond (2 nos)
<table><tr><th>Point</th><th>Latitude</th><th>Longitude</th></tr><tr><td>A</td><td>30°32'45.9"N</td><td>76°34'41.5"E</td></tr><tr><td>B</td><td>30°33'03.7"N</td><td>76°34'16.6"E</td></tr><tr><td>C</td><td>30°33'22.2"N</td><td>76°33'47.8"E</td></tr></table></td><td>--</td></tr>
<tr><td>6.</td><td>Elevation of the project Site</td><td>286 mtr above mean sea level</td><td></td></tr>
<tr><td>7.</td><td>Involvement of Forest land if any.</td><td>No</td><td></td></tr>
<tr><td>8.</td><td>Water body (Rivers, Lakes, Pond) Nala, Natural Drainage, Canal etc. exists within the project site as well as study area.</td><td><u>Project site:</u>
Name: Nalash Village
Study area
<table><tr><th>Water body</th><th>Distance (Km)</th><th>Direction</th></tr><tr><td>Rajpura Distributary</td><td>0.30</td><td>E</td></tr><tr><td>Satluj Yamuna Canal</td><td>6.41</td><td>ENE</td></tr><tr><td>Tangauri choi</td><td>6.16</td><td>ESE</td></tr><tr><td>Bhakra main line canal</td><td>7</td><td>WSW</td></tr></table></td><td>Authenticated HFL data of the water body shall be Furnished.</td></tr>
<tr><td>9.</td><td>Archaeological sites monuments/ historical temples etc.</td><td>Not Applicable</td><td></td></tr>
</table>

S. No.	Particulars	Details	Remarks
10.	Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area	**Study area** **Name of the ESZ/ESA:** **Status of Notification:** **Distance of project from ESZ/ESA:** **Authenticated map of ESZ projecting distance of ESZ from project site:** Status of NBWL approval: **List of Reserved and protected forests:**	None within 10 Km study area
11.	Facility envisaged in CRZ area (Only for coastal power plant)	Name of the facility in CRZ area Recommendation of CZMA Status of CRZ clearance	Not applicable
12.	Involvement of Critically polluted area/ Severely Polluted Area as per 2018 CEPI score	Involvement of CPA/SPA Proximity of CPA/SPA	Not Applicable

24.2.6: The unit configuration and capacity of existing and proposed project is given as below:

S. No.	Existing power plant configuration and capacity	Proposed power plant configuration and capacity	Total	Technology adopted
1	2x700 (1400MW)	1x800 (800MW)	2200 MW	Supercritical for existing units and Ultra Supercritical for proposed unit

24.2.7: The details of the fuel (coal/gas/LDO) requirement for the proposed project/ expansion cum proposed project along with its source and mode of transportation is given as below:

Details	Fuel requirement (MTPA)	Source	Distance from site (Kms)	Mode of Trans -portaction	Coal characteristic s (Worst case scenario)	Linkage document
Existing TPP	Coal-5.8 MTPA	SECL/NCL/ CCL/BCCL	1400 (Approx.)	Rail	Ash -37% Sulphur- 0.4% Moisture- 13% GCV – 3700 Kcal/Kg	Long term fuel supply agreement with SECL and NCL
	LDO- 800 KL/annum	Oil Refineries	410 km	Road	NA	Delivery orders as per requirement
	Biomass- 3 MTPA	Local Supplier	200 km	Road	NA	Contracts are in place

Proposed TPP	Coal- 3.35 MTPA	CIL through Shakti-BIV/applicable scheme from Ministry of Coal	1400 (Approx.)	Rail	Ash -39% Sulphur- 0.4% Moisture-13% GCV – 3600 Kcal/Kg	Coal linkage will be secured from coal companies of CIL through Shakti-BIV/applicabl e scheme of Ministry of coal
	LDO-600 KL/annum	Oil Refineries	410 km	Road	NA	Delivery orders as per requirement
	Biomass-0.23 MTPA	Local Supplier	200 km	Road	NA	Additional contract will be signed

24.2.8: Water requirement: Water requirement for Existing (2x700 MW) project is 88560 KLD, which is obtained from Department of irrigation, and permission for the same has been obtained from Govt. of Punjab vide letter dated 09/05/2008. The water requirement for the proposed (1x800 MW) project is estimated as 48,000 KLD, and the permission for drawl of water is obtained from Department of irrigation Vide letter dated 23/09/2010. The water will be transported to the plant site through the existing system.

24.2.9: Power requirement: The power requirement for the proposed project construction is estimated as 10 MW, which will be availed from existing units.

24.2.10: Solid and hazardous waste Management: The details of solid and hazardous waste generation along with its mode of treatment/disposal is furnished as below

S. No.	Type of Waste	Source	Quantity generated (TPA)	Mode of Treatment	Disposal	Remarks
1	Ash	Coal	1172745	Utilization in fly ash- based products, Cement Manufacturing and Ready-Mix concrete	Through Bulkers and Covered Tippers	--
2	Used and Spent oil	Mechanical maintenance	2.64		through Authorized Recycler	--
3	Waste and residues containing oil	Mechanical maintenance	1.075		through Authorized Recycler	--
4	Chemical sludge from wastewater	Wastewater from Chemistry lab			through Authorized Recycler	--

24.2.11: Cost of project: Existing capital cost of project was 10,000 Crores. The capital cost of the proposed project is Rs.7000 Crores and the capital cost for environmental protection measures is proposed as Rs. 1200 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 15 Crores. The proposed project/expansion is expected to generate employment for approximately 1,550 people during the construction phase and around 350 people during the operational phase.

24.2.12: Green Belt Development: Existing green belt has been developed in 129.5 ha area which is about 29.68 % of the total project area of 436.25 ha with total sapling of 2,50,000 Trees. Proposed greenbelt will be developed in 17.5 ha which is about 4.01 % of the total project area. Thus total of 147 ha area (33.69% of total project area) will be developed as greenbelt. A 10 m wide greenbelt around plant boundary and more than 50 meter consisting of at least 3 tiers around the plant is developed as greenbelt and green cover as per CPCB guidelines. Local and native species will be planted with a density of 2500 trees per hectare. Total no. of 50,000 saplings will be planted and nurtured in 17.5 hectares in 3 years.

24.2.13: Ash management for last three years (Only for expansion cases):

Year	Quantity generated (MT)	Quantity utilized (MT)	% of utilization	Balance quantity (MTP)	No of storage silos with capacity
FY 22	19,55,634	19,57,001	100%	0	3 Nos, 1865 MT Capacity of each
FY 23	21,00,746	21,11,294	100%	0	3 Nos, 1865 MT Capacity of each
FY 24	26,70,394	26,73,013	100%	0	3 Nos, 1865 MT Capacity of each

As per MOEF notification dated 31st December 2021, NPL was having legacy stock of 14,534 MT. Which was cleared in FY22, FY23 and FY24 and at present Nil legacy stock is available with NPL.

A. Fly ash Details for last three years = 52,25,900 TPA

S. No.	**Activity (as applicable)**	**Quantity**	**Percentage**	**Remarks (Prior approval of SPCB details to be mentioned)**
1.	Fly ash based products (bricks or blocks or tiles or fiber cement sheets or pipes or boards or panels)	2,39,272	5%	
2.	Cement manufacturing	44,94,415	86%	
3.	Ready mix concrete	4,92,213	9%	
	Total	**52,25,900**	**100%**	

B. Bottom ash generation for last three years = 14,99,757 TPA

S.No.	**Activity (as applicable)**	**Quantity**	**Percentage**	**Remarks (Prior approval of SPCB details to be mentioned)**
1.	Fly ash based products (bricks or blocks or tiles or fiber cement sheets or pipes or boards or panels)	20,044	1%	--
2.	Construction of roads, road and fly over embankment	14,79,713	99%	--

	Total	**14,99,757**	**100%**	--

C. Legacy ash details = 14,534 TPA

S.No.	Activity (as applicable)	Quantity	Percentage	Remarks (Prior approval of SPCB details to be mentioned)
1.	Construction of roads, road and fly over embankment	14,534	100%	--
	Total	**14,534**	**100%**	--

D. Ash Pond details

S.No.	Details of Ash pond	Ash pond 1	Ash pond 2	Total
1.	Status of ash pond (Active / Exhausted (yet to be reclaimed)/ Reclaimed)	Active	Active	2 dykes Active
2.	Area (Ha)	42	38	80
3.	Dyke height (m)	6	6	NA
4.	Volume (m^3)	22.86	20.98	43.84
5.	Quantity of ash disposed (Metric Tons)	0	0	0
6.	Available volume in percentage (per cent) and quantity of ash can be further disposed (Metric Tons)	22,86,000	20,98,000	43,84,000
7.	Expected life of ash pond (number of years and months)	17 Years	17 Years	34 Years
8.	Type lining carried in ash pond: HDPE lining of LDPE lining or clay lining or No lining	HDPE	HDPE	HDPE
9.	Mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or MCSD or LCSD)	LCSD	LCSD	LCSD
10.	Ratio of ash: water in slurry mix (1: _____):	1:3	1:3	1:3
11.	Ash water recycling system (AWRS) installed and functioning : Yes or No	Yes	Yes	Yes
12.	Quantity of wastewater from ash pond discharged into land or water body (m^3)	0	0	0
13.	Last date when the dyke stability study was conducted and name of the organization who conducted the study:	January'25 by IIT Ropar	January'25 by IIT Ropar	January'25 by IIT Ropar

14.	Last date when the audit was conducted and name of the organization who conducted the audit:	October' 24 by IIT Mandi	October'24 by IIT Mandi	October'24 by IIT Mandi

E. Proposed ash utilization plan for expansion project:

Details	Existing generation (MTPA)	Proposed generation (MTPA)	Total	Utilization (MTPA)	% of utilization	Balance quantity (MTPA)	No of storage silos with capacity
Ash (Fly & Bottom)	22,42,333	11,72,745	34,15,078	34,15,078	100%	0	5 Nos with Total Capacity of 9,595 MT

Ash pond details for proposed project: The Existing ash dykes will be used for expansion unit.

24.2.14: Summary of violation under EIA, 2006/court case/show cause/direction if any, related to the project under consideration shall be furnished.:

A. Summary of court cases

S. No.	Case No/ Title	Name of the Court	Brief summary of the case	Last date of hearing	Next date of hearing	Direction/ Action taken by the PP
1	Sadhu Singh & Ors. Vs. NPL & Ors CS/578/2023	Additional Civil Judge Rajpura	Sadhu Singh & Ors. Vs. NPL & Ors. The dispute pertains to suit for permanent injunction filed by the Petitioners to restrain NPL from releasing dirty water mixed with chemicals through water outlet from its boundary wall and further to cut trees inside NPL as their shadow falls on petitioner's land.	07/03/2025	28/05/2025	NPL doesn't discharge any chemical water, as it is a ZLD plant.

B. Summary of Show Cause Notices: Nil

C. Summary of violation: There is no violation under the Environment Protection Act 1986; Van (Sanrakshan Evam Samvardhan) Adhiniyam 1980; and the Wildlife (Protection) Act, 1972

24.2.15: Baseline data collection period (1st December 2024 to 28th February 2025):

Attributes	Parameters	Sampling		Remarks
A. Air		No. of stations	Frequency	--
a. Meteorological parameters	Wind speed & direction (0- 360), temperature, Relative Humidity, Atmospheric Pressure, Rainfall	01	One Season	---
b. AAQ parameters	PM10, PM2.5, SO2, NO2, CO, Mercury	08	One Season	--
B. Noise	Residential, Commercial & Silence Zone Daytime and Night time noise levels	08	One season Twice a day (day & Night)	--
C. Water				
Surface water/Ground water quality parameters	Colour, Odour, Taste, Temperature, Conductivity, Alkalinity, Hardness, TDS, TSS, DO, BOD, COD, Chlorides, Phosphates, Sulphates, etc.	Ground:07 Surface:08	One Season (monthly)	--
D. Land				
Soil quality Land use	a: pH, Conductivity, Nitrogen, Phosphorus, Potassium, Mercury, etc b: habitations, agriculture, barren/waste lands,water bodies, grasslands	Soil: 08 Land Use: Study Area	Once in a season of critical period	--
E. Biological Aquatic Terrestrial	a: Presence of Phytoplankton and zooplanktons at sampling sites, their frequency and density. Macro invertebrates at various sampling sites		One season	--
F. Socio-economic parameters	Sample Survey of Core and buffer areas.		One Season	--

24.2.16: Written Submission: PP submitted that an additional Air quality monitoring at three additional locations will be carried out and incorporated in the EIA/EMP report.

Observations and deliberation of the EAC

24.2.17: The Committee observed and noted the following:

i. Instant proposal is for seeking Terms of Reference for expansion of 2 x 700MW Nabha thermal Power plant by adding 1x800 MW unit by M/s. Nabha Power Limited at village Nalash, Rajpura, district Patiala, Punjab.

ii. The existing (2 x 700MW) project was accorded Environmental Clearance vide letter dated 03/10/2008 from the Ministry of Environment & Forests. Consent to Operate (CTO) for the existing units was accorded by Punjab State Pollution Control Board vide letter dated 26/03/2025 and the same is valid up to 31/03/2030.

iii. Total land required for the existing (390.15 Ha) and proposed (46.1 ha) project is 436.25 ha, which is under possession of M/s. Nabha Power Limited. The proposed expansion (1 x 800 MW) shalll be done within the existing total land available with

Nabha Power Limited.

iv. No forest land is involved in the proposed project.

v. The EAC also took into consideration the drone survey of the project site and KML file on the Google Earth presented by the project proponent along with DSS of the project site on PARIVESH.

vi. There is no ESZ, National parks, Wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from the project site as ascertained from DSS.

vii. Rajpura Water body and Satluj Yamuna Canal is located at 0.3 Km and 6.41 Km of the project boundary. Authenticated HFL data of the water body as per MoEF&CC O.M. dated 14/02/2022 shall be furnished.

viii. The project site is not located within the Critically Polluted Area (CPA) / Severally Polluted Area (SPA) as per CEPI assessment 2018 of CPCB.

ix. Coal requirement of 5.8 MTPA and 3.35 MTPA will be met through rail transportation for existing (stage-I) and proposed (Stage-II) project, respectively. There will be no road transportation of coal for Stage- I & II project.

x. The water requirement for the proposed project is estimated as 48,000 KLD and the same will be met from Rajpura Distributary and the permission for the same is obtained from Department of irrigation Vide letter dated 23/09/2010. The water will be transported to the plant site through the existing pipeline.

xi. The power requirement for the proposed project construction is estimated as 10 MW, which will be availed from existing units.

xii. The capital cost of the proposed project is Rs.7000 Crores and the capital cost for environmental protection measures is proposed as Rs. 1200 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 15 Crores. The proposed project/expansion is expected to generate employment for approximately 1,550 people during the construction phase and around 350 people during the operational phase.

xiii. Existing green belt has been developed in 129.5 ha area which is about 29.68 % of the total project area of 436.25 ha with total sapling of 2,50,000 Trees. Proposed greenbelt will be developed in 17.5 ha which is about 4.01 % of the total project area. Thus total of 147 ha area (33.69% of total project area) will be developed as greenbelt.

xiv. Elementary schools are located in range of 0.31 Km to 1.98 Km N from the plant boundary. A health centre is located at a distance of 1.59 km from the plant boundary. A dense greenbelt, comprising native and pollution tolerant species, has already been developed around the plant boundary. Vegetative buffers act as natural air filters and noise retarders. In addition, windshield curtains and dust containment structures are installed at coal and ash handling areas to minimize particulate escape toward habitations.

xv. High efficiency Electrostatic Precipitators (ESP) shall be installed for the proposed project, to control the emission of ash particles. The ESP would be so designed that for worst coal firing an outlet dust concentration of 30 mg/Nm3 with one field out of service as stipulated by the regulatory authorities would be achieved. Along with this one Single Flue Chimney is envisaged. A wet limestone-based Flue Gas Desulphurization (FGD) system will be installed to absorb SO2 gas that shall be

captured in limestone slurry to produce gypsum.

xvi. Zero liquid discharge (ZLD) will be adopted for the proposed plant using suitable effluent treatment plant, sludge thickener and RO systems.

xvii. Committee deliberated on the existing ash management and observed that the percentage of ash utilization for the FY24 was 100%. For proposed unit the estimated ash generation would be 1172745 MTPA and would be utilized by 100%. The existing ash dykes of an area of 80 ha will also be used for expansion unit and new ash pond is envisaged for the proposed expansion.

xviii. M/s. NPL proposes to achieve 100% ash utilization by selling ash to the surrounding cement plants and brick industries in line with the requirements of MoEF notification.

xix. The committee noted that there is 01 court case (Sadhu Singh & Ors. Vs. NPL & Ors CS/578/2023) with respect to the instant project is pending at Additional Civil Judge, Rajpura.

xx. The baseline data were collected from December 2024 to February 2025. Committee observed that selection of monitoring stations for the air quality monitoring may be enhanced by adding another three locations.

xxi. The EAC noted that the Project Proponent has given an undertaking that the data and information given in the application and enclosures are true to the best of his knowledge and If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.

Recommendations of the Committee

24.2.18: The EAC after detailed deliberations on the information submitted and as presented during the meeting ***recommended*** the proposal for grant of ToR for conducting an EIA study for the above project **subject to uploading of written submission** on PARIVESH Portal under the provisions of the EIA Notification, 2006, as amended along with the following specific ToR in addition to the generic ToRs.

[A] Environmental Management and Biodiversity Conservation

i. A Cumulative Environmental Impact Assessment study of all the existing and proposed projects in the 10-km radius of the proposed project shall be conducted and the same shall be included the in EIA/EMP report. Details of industrial units present in 10 Km radius of the power plant shall be earmarked in map and submitted.

ii. Certified compliance report containing compliance to the prescribed EC conditions for the 2x700 MW (Unit 1) as per the MoEF&CC O.M. dated 08/06/2022 including status of construction of 1x800MW (Unit 2) shall be submitted.

iii. Certificate from concerned District Magistrate/Executive Engineer from the State Water Resources department (or) any officer authorized by the State Government in this regard shall be submitted stating that project site is not located within flood plain corresponding to one in 25 years of flood as per Ministry's O.M. dated 14/02/2022.

iv. All the parameters as mentioned in the National Ambient Air Quality Standards (NAAQS) shall be monitored by the project proponent.

v. Project proponent shall also obtain recommendations from the State Forest department regarding the impact of project on the nearby Reserved Forests, if any, along with the mitigation measures to be followed.

vi. EIA/EMP study shall take in to consideration the different scenarios arising due to change of coal source, impact on environmental attributes due to change of coal source along with corresponding mitigation measures with EMP budget shall be submitted.

vii. Biodiversity analysis of the project site and study area shall be done through any reputed Government institutions. The study report shall inter-alia include impact of release of cooling tower water on aquatic life and action plan for complying with the mitigation measures shall be submitted.

viii. Project proponent shall commission a study on Hydrology and Hydrogeology of the project site as well as the study area of the project site through a reputed institute/Government organization. The study report along with the action plan for implementing the recommendations of the report shall be submitted along with the EIA/EMP report.

ix. Radioactivity studies along with coal analysis to be provided (sulphur, ash percentage and heavy metals including Pb, Cr, As and Hg). Details of auxiliary fuel, if any including its quantity, quality, storage, etc should also be given.

x. PP should submit the detailed plan in tabular format (year-wise) for concurrent afforestation and green belt development in and around the project site covering 33 % of the project area. The PP should submit the number of saplings to be planted, names of native species, area to be covered under afforestation & green belt, location of plantation, target for survival rate and budget earmarked for the afforestation & green belt development. The capital and recurring expenditure to be incurred needs to be submitted. Plantation plan should be prepared in such a way that 80% of the plantation to be carried out in first 5 years and for the remaining years the proposal for gap filling. The seedling of height not less than 2 meters to be selected and accordingly cost of plantation needs to be decided.

xi. Action plan for development of three-tier plantation programme (33 % of total project cover area) along the periphery of the project boundary and the coal transportation route shall be provided. PP shall submit concurrent plantation plan.

xii. Detailed action plan shall be prepared for maintenance of air pollution control equipment for proposed units and shall be incorporated in the EIA/EMP report.

xiii. Details of Ash management plan as per MoEF&CC notification dated 31/12/2021 & its subsequent amendment for the proposed project shall be submitted. MoU signed for ash utilization with companies shall be submitted.

xiv. Action plan for dry ash collection system (Bottom ash and Fly ash) shall be submitted.

xv. Action plan for disposal of ash through High Concentration Slurry Disposal (only in emergency conditions) shall be submitted.

xvi. Proper protection measures like high-density polyethylene (HDPE) lining, appropriate height of bund and adequate distance between the proposed Ash pond and water body (minimum 60 meters) etc. shall be planned to reduce the possibility

of mixing leachate with any freshwater body for ash pond. A high-density Slurry disposal plan shall be prepared.

xvii. Pond and ground water quality (10 locations within 2 km radius of the plant boundary) shall be studied and report be submitted along with EIA/EMP. Action plan for Ground water monitoring stations on all hotspots like schools/hospitals within 2 km radius of the plant boundary be submitted. Baseline Study for Heavy metals in Groundwater, Surface water and soil to be carried out and incorporated in EIA/EMP report.

xviii. Details pertaining to water source, treatment and discharge should be provided.

xix. PP shall submit action plan for using treated Sewage/Domestic wastewater for its operations.

xx. PP shall provide the details of wastewater treatment facilities to be installed within its capacity, timeline and budget.

xxi. Project Proponent to conduct Environmental Cost Benefit Analysis for the project in EIA/EMP Report.

xxii. An action plan shall be prepared for Water shed development within 10 km radius of the plant boundary in consultation with reputed government institution and incorporated in EIA/EMP report.

xxiii. PP should clearly bring out that what is the specific diesel consumption ~ (Liters/Tonne of total material handled) and steps to be taken for reduction of the same. The year-wise target for reduction in the specific diesel consumption needs to be submitted. PP shall also explore the possibility of using e-vehicles/LNG/CNG-based machinery and trucks for the operation and transportation of Coal and ash and submit an implementation strategy.

xxiv. PP shall provide the details of transportation of flyash from the plant, transportation route etc. Further, carry out a traffic study for at least one month and provide the impact of transportation along with the mitigation measures.

xxv. PP shall submit the action plan to adhere to the Plastic Waste Management Rules 2016 and to adhere Ministry's OM dated 18/07/2022.

xxvi. Details on renewable energy (solar plant) proposed to be installed as energy conservation measures shall be submitted.

xxvii. The input parameters for the AAQ modelling and the influence of various combinations of these on the AAQ must be reported in the EIA/EMP Report. In addition to the Wind Rose diagram collected for one season during the preparation of the E.I.A., wind rose diagram for all seasons must be provided using secondary data from sources such as IMD/CPCB etc.

xxviii. Project proponent shall take all necessary steps to control the Air Quality and take additional mitigation measures for proposed TPP to maintain the Ambient Air Quality values within the limits. The action plan regarding maintaining ambient quality standards (Time weighted average for 24 hours and Annual both) be submitted. Further, project proponent shall submit an undertaking to abide by the provisions of the notification number G.S.R 593 (E) dated 28/06/2018 related to FGD, as amended, and any subsequent amendment thereof pursuant to the outcome of study carried out by CPCB in this regard.

xxix. PP shall carryout additional Air quality monitoring of three additional locations and the same shall be incorporated in the EIA/EMP report.

xxx. Details of air pollution control devices to be installed in the proposed 1x800 MW TPP along with its maintenance schedule shall be incorporated in EIA/EMP report.

xxxi. Carbon emission due to TPP and allied carbon sequestration plan be submitted.

xxxii. PP is advised to implement the '***Ek Ped Maa Ke Naam***' Campaign, which was launched on 5th June 2024 on the occasion of the World Environment Day to increase the forest cover across the Country. This plantation drive is other than Green belt development. An action plan in this regard shall be submitted.

[B] Disaster Management

i. A Disaster Management Plan shall be prepared and incorporated in the EIA/EMP report.

[C] Socio-economic Study

i. The Public Health Action Plan including the provisions for drinking water supply for the local population shall be in the EIA/EMP Report. The status of the existing medical facilities in the project area shall be discussed. Possibilities of strengthening of existing medical facilities, construction of new medical infrastructure etc. will be explored after assessing the needs of the labour force and local populace.

ii. Public consultation (Public Hearing and Written submission) shall be conducted as per the provisions of EIA Notification, 2006 and as amended. As per the Ministry's OM dated 30.09.2020, to address the concern raised during the Public Hearing, the Project Proponent is required to submit the detailed activities proposed with year-wise budgetary provision (Capital and recurring) for 5 years. Activities proposed shall be part of EMP. Tentative no. of project affected families (if any) shall be identified and accordingly appropriate Rehabilitation &Resettlement plan shall be prepared. The recommendation Socio-economic study may also be considered while planning the activities & budget.

iii. A need based Social Impact Assessment Study shall also be carried out and an action plan on its recommendations may also be submitted with budgetary provisions.

iv. Demographic details and land use change details in 10 km area shall be submitted.

[D] Miscellaneous

i. Plot the wind rose diagram using the typical meteorological year (TMY) data for the period considered for the study. The monitoring units shall be deployed in the field based on the coverage area ratio and direction of the wind. A mathematical model shall be developed for the local site rather than using the standard model available in software for both air & water quality modelling.

ii. PP shall align its activities to one/few of the Sustainable Development Goals (SDG) and start working on the mission of net zero by 2050. PPs shall update the same to the EAC.

iii. PP shall submit the EIA/EMP report after the plagiarism check using authenticated plagiarism software.

iv. Detailed description of all the court cases along with its current status shall be

submitted.

v. PP should provide in the EIA Report details of all the statutory clearances, permissions, no objection certificates, consents etc. obtained for this project under various Acts, Rules and regulations shall be submitted. Further, all the permissions/MoUs obtained for this project shall be revalidated and submitted along with the EIA/EMP report.

vi. The PP should submit the photograph of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this PP should submit the original test reports and certificates of the labs, which will analyze the samples.

vii. PP should clearly bring out the details of the manpower to be engaged for this project with their roles /responsibilities/designations. In addition to this PP should mention the number and designation of persons to be engaged for the implementation of environmental management plan (EMP). The capital and recurring expenditure to be incurred needs to be submitted.

viii. PP should submit the year-wise, activity wise and time-bound budget earmarked for EMP, occupational health surveillance, and activities proposed to address the issues raised during Public Hearing. The capital and recurring expenditure to be incurred needs to be submitted.

ix. Activities shall be prepared based on the issues arise during public hearing conducted and fresh written submission with defined timeline and budgetary provisions.

x. Aerial view video of project site and coal transportation route proposed for this project shall be recorded through drone and be submitted.

xi. The PP should ensure that only NABET-accredited consultants shall be engaged for the preparation of EIA/EMP Reports. PP shall ensure that the accreditation of the consultant is valid during the collection of baseline data, preparation of EIA/EMP report and the appraisal process. The PP and consultant should submit an undertaking the information and data provided in the EIA Report and submitted to the Ministry are factually correct and the PP and consultant are fully accountable for the same.

xii. PP should provide in the EIA Report details of the statutory clearances, permissions, no objection certificates, consents etc. required for this project under various Acts, Rules and regulations and their status or estimated timeline after the grant of EC.

xiii. All the certificates viz. Involvement of Forestland, distance from the protected area, and list of flora & fauna should be duly authenticated by the Forest Department. The Certificate should bear the name, designation, official seal of the person signing the certificate and dispatch number.

xiv. The findings of the subcommittee report shall be incorporated in the final EIA/EMP report.

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ANNEXURE-I

LIST OF PARTICIPANTS OF EAC (THERMAL) IN 24th MEETING HELD ON 29th APRIL, 2025 THROUGH PHYSICAL MODE

S. No.	Name & Address	Role	29.04.2025
1.	Shri Inder Pal Singh Matharu, IFS (Retd.)	Chairman	Present
2.	Shri Lalit Kapur	Member	Present
3.	Dr. Umesh Jagannathrao Kahalekar	Member	Present
4.	Dr. Santosh Kumar Hampannavar	Member	Present
5.	Shri Savalge Chandrasekhar	Member	Present
6.	Shri K. B. Biswas	Member	Present
7.	Prof. Shyam Shanker Singh	Member	Absent
8.	Dr. Vinod Agrawal	Member	Absent
9.	Shri Prasoon Gargava, Scientist - F	Representative of Central Pollution Control Board	Absent
10.	Shri Mahi Pal Singh, Chief Engineer	Representative of Central Electricity Authority (CEA)	Present
11.	Shri Harmeet Sahaney	Representative of Indian Meteorological Department (IMD)	Absent
12.	Prof. R M Bhattacharjee	Representative of IIT/ISM Dhanbad	Present
13.	Shri Sundar Ramanathan	Member Secretary	Present
From MoEF&CC			
14.	Dr. Rajesh Prasad Rastogi	Scientist 'D'	Present

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ANNEXURE-II

APPROVAL OF CHAIRMAN – EAC (THERMAL)

Fwd: Draft MoM_24th EAC (Thermal) meeting held on 29th April 2025

IS Inderpal Singh Matharu <matharu0204@gmail.com>
Wed, 07 May 2025 3:12:47 PM +0530

To "Sundar Ramanathan" <r.sundar@nic.in>, "RAJESH PRASAD RASTOGI" <rp.rastogi@gov.in>

Dear Sundar ji and Rastogi ji
I have gone through the MoM of 24th EAC of ThermalPower. All the points are being incorporated, which were discussed during the meeting. Hence I approve the same.
Thanks.
Sincerely yours
Inder Pal Singh Matharu
Chairman
EAC Coal mining and Thermal Power

---------- Forwarded message ---------
From: **RAJESH PRASAD RASTOGI** <rp.rastogi@gov.in>
Date: Wed, 7 May, 2025, 11:48
Subject: Draft MoM_24th EAC (Thermal) meeting held on 29th April 2025
To: matharu0204 <matharu0204@gmail.com>, lkapoor2000 <lkapoor2000@yahoo.com>, ukahalekar <ukahalekar@rediffmail.com>, santoshkumar777 <santoshkumar777@yahoo.com>, savalgec <savalgec@gmail.com>, singhss.ggu <singhss.ggu@gmail.com>, vinodudz <vinodudz@yahoo.com>, PRASOON GARGAVA <prasoon.cpcb@nic.in>, mpsingh.cea <mpsingh.cea@nic.in>, harmeetssawhney <harmeets.sawhney@gmail.com>, Rmbhattacharjee <rmbhattacharjee@iitism.ac.in>
Cc: Sundar Ramanathan <r.sundar@nic.in>

•••

1 Attachment(s) • Download as Zip

Draft MoM_24TH EAC THERMA.docx
206.5 KB